REPORT RESUMES

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THE NATIONAL CENTER FOR SCHOOL AND COLLEGE TELEVISION--A DEMONSTRATION OF A NATIONAL PROGRAM AGENCY FOR INSTRUCTIONAL TELEVISION. FINAL REPORT.

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THE NATIONAL CENTER FOR SCHOOL AND COLLEGE TELEVISION WAS ESTABLISHED IN 1965 BY THE OFFICE OF EDUCATION AND THE INDIANA UNIVERSITY FOUNDATION AS A PERMANENT AGENCY TO PROVIDE QUALITY INSTRUCTIONAL TELEVISION MATERIALS AND COURSE DISTRIBUTION ON A NATIONAL SCALE. NCSCT MAKES MATERIALS AVAILABLE BY EVALUATION, ACQUISITION, REVISION, AND PRODUCTION, ENGAGES IN NATIONWIDE LIAISON WORK WITH TEACHERS, ADMINISTRATORS, AND ITV PERSONNEL, AND ACTS AS A CENTER OF INFORMATION ON INSTRUCTIONAL TELEVISION BY COLLECTING, ANALYZING, AND DISSEMINATING DATA. FINDINGS OF ITS TWO-YEAR DEMONSTRATION PROGRAM ARE--(1) THE EDUCATIONAL USE OF TELEVISION WILL EXPAND, CREATING GREATER NEED FOR EFFECTIVE MATERIALS, (2) FEW MATERIALS PRODUCED FOR LOCAL SCHEDULING ARE SUITABLE FOR WIDESPREAD USE, (3) A HIGH PERCENTAGE OF REUSE INDICATES THAT THE CENTER'S MATERIALS ARE SATISFACTORY, (4) ACCELERATED NCSCT ACTIVITY IS NEEDED MOST IN ELEMENTARY EDUCATION, (5) NSCST'S MATERIALS, RESEARCH, AND DISSEMINATION WILL STIMULATE WISER USE OF TELEVISION, AND (6) PROFESSIONAL EDUCATIONAL ORGANIZATIONS AND SCHOOL SYSTEMS WILL COMMIT RESOURCES TO NCSCT'S EFFORTS. APPENDICES INCLUDE REPORTS CONCERNED WITH THE NATIONAL INSTRUCTIONAL TELEVISION LIBRARY, THE IV LESSON EVALUATION FORM, NCSCT SUBJECT AREA ASSESSMENTS, PRELIMINARY CONCLUSIONS, TABLES, AND A LIST OF AVAILABLE MATERIALS. (JO)

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March 1968

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

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FINAL REPORT

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Indiana University Foundation

Bloomington, Indiana

March 1968

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TABLE OF CONTENTS

Chapter Page

SUMMARY 1
1 THE ORIGINS OF NCSCT. 4
  The Demonstration (1962-1965) 5
2 ORGANIZATION, ADMINISTRATION AND PLAN OF OPERATION 8
  Organization. 9
  Television Materials. 9
  Field Services. 12
  Research and Information. 12
3 INSTRUCTIONAL TELEVISION (1965-1967). 15
  Enrollments 15
  Transmission Facilities 16
  Programing. 18
4 THE RESULTS 20
  Television Materials. 20
  Methods of Production 33
  Field Representation. 34
  Research and Information. 36
5 CONCLUSIONS 41
BIBLIOGRAPHY. 43

APPENDIXES

I STATEMENT BY THE NATIONAL ADVISORY COMMITTEE OF THE NATIONAL INSTRUCTIONAL TELEVISION LIBRARY DEMONSTRATION PROJECT 46
II ADVISORY STATEMENT FROM STATE LEADERSHIP PERSONNEL CONCERNING INSTRUCTIONAL TELEVISION PROGRAM EXCHANGE 53
III NCSCT STAFF (1965-1967) 60
IV NATIONAL ADVISORY BOARD (1965-1967) 64
V TELEVISION LESSON EVALUATION FORM 66
VI REPORTS OF NCSCT SUBJECT AREA ASSESSMENTS 71
  Art Education 72
  Foreign Language Education. 87
  Health and Physical Education 104
  Mathematics Education 121
  Music Education 135
  Science Education 147
  Social Studies Education. 161

Chapter Page

VII PRELIMINARY CONCLUSIONS FROM A STUDY OF THE SIZE AND GROWTH OF THE SCHOOL TELEVISION AUDIENCE SERVED BY ETV STATIONS DURING THE PAST FIVE YEARS 176
VIII TABLES. 180
- 1. Grade Emphasis of Courses Submitted for NCSCT Assessment Conferences 181
- 2. Courses Submitted for NCSCT Assessment Conferences (1965-1967). 182
- 3. Length of Lessons Submitted for Assessment Conferences. 183
- 4. Number of Lessons in Courses Submitted for Assessment Conferences (1965-1967) 184
- 5. Weekly Lesson Frequency of Courses Submitted for Assessment Conferences 185
- 6. Total Hours of Instructional Television Programing Broadcast by Educational Television Stations 186
- 7. Suitability of Elementary Courses for General Use by Year of Production 187
- 8. Reuse Patterns of NCSCT Elementary Courses. 188

IX MATERIALS AVAILABLE FROM NCSCT--SEPTEMBER 1, 1967 189
X THE EVALUATION OF INSTRUCTIONAL TELEVISION. 191
XI FIELD VISIT REPORT. 196
XII EDUCATION'S DESIGN FOR SATELLITE COMMUNICATIONS. 200
ERIC REPORT RESUME. 204

PREFACE

The effort to create a national agency whose primary task is to provide meaningful instructional television materials for American education has been the resolve of a number of people and organizations since 1961. With the establishment of the National Center for School and College Television (NCSCT) on an enduring basis, the vision of finding an effective way for television to achieve its potential in the classroom is realizable.

The successful establishment of NCSCT is due to the effective efforts of a number of people. Especially significant has been the effort of Herman B Wells, president of the Indiana University Foundation; Elvis J. Stahr, president of Indiana University; John F. White, president of National Educational Television; the members of the National Instructional Television Library Advisory Board and the first NCSCT National Advisory Board; and instructional television coordinators across the United States whose business it is to present the most effective possible television schedule to American schools.

The United States Office of Education has played a pivotal role since 1961. In demonstrating the need for an agency like NCSCT, the Office of Education's partner was the National Educational Television and Radio Center. The Indiana University Foundation completed the task of establishing NCSCT.

INTRODUCTION

SUMMARY

The National Center for School and College Television (NCSCT) was established in 1965 to provide for the development of instructional television materials of the highest quality in content, design and techniques. The Center was in its initial years an expansion of a three-year investigation of the status and the needs of instructional television in the United States. During its two-year demonstration, NCSCT was to explore ways to make available a quantity of effective instructional television materials, establish lines of communication with education and educational broadcasters, and provide a central source of knowledge and information about instructional television.

On the basis of education's willingness to commit resources to NCSCT's goals and the success of its initial work, the Center has been established as a permanent national agency.

Major findings leading to the successful establishment of NCSCT are presented below.

1. The use of television in education will continue to expand, creating greater need for increasingly effective television materials.

Nearly ten million individual kindergarten through twelfth grade students now regularly receive some part of their instruction through television. This number will increase as the number of educational television stations, closed-circuit transmission facilities and Instructional Television Fixed Service systems grows.

2. American education cannot rely solely on local sources of programing for the needed quantity of effective television materials.

No single station or installation, existing or projected, is in a position to provide the needed range of programing, let alone the larger educational demand that may eventually cover 12 or more grade levels in a variety of subjects. There are limitations upon dollars, staff, time and intellectual resources that restrict the quality of many new courses that can be produced by a local facility.

3. NCSCT's commitment to distribute the best of existing materials and to accelerate development of new materials promises to fulfill television's potential in education.

Prior to the establishment of NCSCT only minor attention was given to identifying the precise television needs of education and to possible sources of programing.

Currently available materials are the result of NCSCT's careful evaluation of existing programing. In some instances materials were acquired to be distributed as they existed and in others they were revised with NCSCT resources playing a major role in the revision process. Through an increasingly efficient system of field communication the Center is continuing to evaluate all existing materials.

American education, however, has indicated that new materials must be developed if television is to achieve its ultimate value. Therefore, as a permanent non-profit agency NCSCT will emphasize new material development. So successful has NCSCT's collaboration with educators and instructional television producers been that projects to provide new materials in art, physical education, science, the social sciences and early childhood education are now under way.

An increasingly high percentage of reuse (the use a second and third time of NCSCT programing) indicates that the Center's materials are being well received. NCSCT is confident that its program efforts, especially in the area of new materials development, will introduce a more effective generation of instructional television for American education.

4. Accelerated NCSCT activity is required in elementary education where there is greatest use and subsequent demand for instructional television materials.

More than seven million individual elementary students use television as a regular part of their instruction. The great majority of instructional television materials are created for elementary education. Educators who are working closely with NCSCT have indicated that it is in elementary education that television can make its most meaningful present contribution.

However, several special investigations have convinced NCSCT that television has great potential at other than the elementary education level. Noteworthy beginnings have been made in early childhood, secondary and higher education.

5. Wiser use of instructional television can be stimulated by NCSCT materials and its research and dissemination activities.

Education's acceptance of instructional television depends not only upon effectiveness in materials. The intelligent support of educators, legislators, school board members and citizens also depends on meaningful research and its proper dissemination.

In this regard NCSCT's communications functions are useful. It is along these communications avenues that instructional television leaders can discuss their problems, their needs and their products. Along these avenues NCSCT can continue to gather data, strengthen the concept of using programing from a variety of other sources and deliver the conclusions of its investigations.

6. American education is willing to commit considerable resources to NCSCT's television effort.

In its assessments of instructional television's role NCSCT has turned to a number of professional education organizations for help. The response has been gratifying. The majority of educators involved in NCSCT's work have made extensive commitments because they feel television can have significant value for education. Equally important, school systems have shared their investments in television materials with those of NCSCT to develop superior materials for widespread use.

Chapter 1

THE ORIGINS OF NCSCT

In the past decade instructional television has grown in the United States at a rapid rate. Current predictions are that the growth will continue through the next decade. As a result a constantly increasing number of students will have access to television as a part of their formal instruction.

In spite of this growth, educators question television's contribution to the American instructional process. They wonder about the "intrusion" of the medium in their work. Their crucial question, becoming more and more strident since 1960, is how well can and will television serve education. For central to the problem of the most meaningful use of the transmission facilities that are rapidly multiplying is the development of a sufficient quantity of effective television materials.

Before 1960 educational broadcasters gave greatest priority to channel allocations and to the establishment of adequate television facilities. In those times nearly all of instructional television's programs were locally produced.

Since 1960 federal funds have stimulated continuing growth in the number of transmission facilities serving education. In 1962 the Office of Education funded a three-year demonstration project to examine the status and needs of instructional television programing in the United States. The demonstration showed that education cannot rely only on local program resources if television's full potential is to be reached.

In 1965, on the basis of the demonstration, the National Center for School and College Television (NCSCT) was established to perfect the function of a national program agency for instructional television. This report considers the origins of NCSCT, its establishment and its accomplishments for the 28-month period from May 1, 1965 to September 1, 1967.

The results of the early demonstration effort--which led to the establishment of NCSCT--provide essential background for this report and are considered in the remainder of this chapter.

The Demonstration (1962-1965)

In 1962, the Office of Education launched a demonstration project to study the *educational desirability* and *economic feasibility* of exchanging recorded instructional materials through the mechanism of a national library system.

The instructional television demonstration evolved from a 1961 report which showed that a substantial number of recorded instructional series existed that could be made available to others. The report noted widespread interest in the use of these series and documented the beginnings of exchange activity between various educational television organizations.[1]

The national demonstration included three organizations: the National Instructional Television Library (NITL), a project of the National Educational Television and Radio Center in New York City, the Great Plains Regional Instructional Television Library (GPRITL), a project of the University of Nebraska in Lincoln and the Northeastern Regional Instructional Television Library (NRITL), a project of the Eastern Educational Network in Cambridge, Massachusetts. While results for all three agencies were taken into account, the National Instructional Television Library was the predecessor organization of NCSCT.

The ultimate purpose of the three-year demonstration, if its experience so indicated, was to make possible a permanent, self-supporting national system that would help assure the effective use of television in American education.

The three-year demonstration made notable progress. Its major achievements were

(1) Appraisal of all instructional television programing having an exchange potential.

(2) Development and demonstration of policies and procedures related to the evaluation, acquisition and exchange of recorded series.

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[1] Jack McBride and W. C. Meierhenry, A Study of the Use of In-School Telecast Materials Leading to Recommendations as to Their Distribution and Exchange. (University of Nebraska, 1961.)

(3) Making available selected series for widespread use.

(4) Study of economic feasibility of exchange.

(5) Development of better understanding of the character and needs of instructional television.

(6) Identification and assessment of crucial factors related to a permanent national instructional television system.

Viewed as a whole, the demonstration had a significant impact upon the development and projected character of instructional television materials. By highlighting the program needs of instructional television and stimulating the exchange of recorded series to meet these needs, it provided national leadership. It created solid expectations that quality recorded programing could be made available to strengthen future instructional television schedules, and it inspired hope that its continuing activities would be a major factor in assuring the effective use of television in education.

By its very nature, however, the demonstration could not be completed in three years. To be effective, it had to identify and assess a considerable accumulation of recorded courses, intensively involve numerous educational leaders, acquire courses for pilot distribution through actual negotiation, repeatedly disseminate information to potential users, await the decisions of local preview committees, provide broadcast materials consistent with school schedules, gauge the acceptance of courses through analysis of user reactions and patterns of subsequent use and judge the operational and economic practicality of a national system by studying costs and income over a meaningful number of years.

After prolonged study, the advisory board and staff of the National Instructional Television Library together with state leaders from across the United States were convinced that

(1) Television materials of the highest quality are essential to the effective use and future development of instructional television.

(2) This necessary high quality can be obtained only if limited educational and financial resources at the local level are supplemented by readily available television materials produced in other places.

(3) Sole reliance on existing sources of programing will not assure the availability of such high quality television materials.

(4) The installation of new facilities is increasing at a rapid rate and will continue to do so for some time.

(5) Significant effort will be required to assure the satisfactory growth of instructional television.

(6) Improvement is needed in the wise classroom utilization of television.

(7) The instructional television demonstration had a beneficial impact upon the development and projected character of instructional television.

In view of the original objectives of the demonstration, its accomplishments and the needs of instructional television, the NITL Advisory Committee and education and instructional television leaders strongly recommended the continuation of the demonstration leading to the effective use of television in American education.[2]

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[2] See page 46 for a full statement of the NITL Advisory Committee and page 53 for the statements of state education leaders.

Chapter 2

ORGANIZATION, ADMINISTRATION AND PLAN OF OPERATION

To this point an attempt has been made to provide an overview of the demonstration project that led to the establishment of NCSCT.

At the demonstration's conclusion in 1965 it was evident that the use of television would continue to expand. As evident was the growing need of educators and instructional television specialists to gain access to quality program materials. Intensive study of instructional television stressed the need for an agency that would serve as a focal point for the development and distribution of highly effective television materials.

Thus, the U.S. Office of Education and the Indiana University Foundation established the National Center for School and College Television to provide, through an expanded demonstration, not only for instructional television course distribution but for the broad development of instructional television materials of the highest quality in content, design and techniques.

During the expanded demonstration, the new national center was to be concerned with

(1) Stimulating and assisting in the creation and widespread use of increasingly effective television courses.

(2) Articulating with the interests, resources and activities of regional, state and local instructional television organizations to accomplish this objective.

(3) Providing a central source of knowledge and information about instructional television.

(4) Developing plans and accumulating experience necessary for the establishment of a permanent and independent center.

For the two-year period of the expanded demonstration,[3] the Center was to be operated by the Indiana University Foundation with Government support. Based on projects and evaluations then current, it was contemplated that the Center would continue beyond the contract period as a function of the Foundation until the Center became completely self-supporting.

In its first 28 months of activity NCSCT organized and devised methods to move toward the goals established for it as quickly as possible. The remainder of this chapter reviews the Center's organization and plan of operation.

Organization

The challenge of creating a national agency committed to instructional television attracted a management staff of high caliber to NCSCT. Appendix III on page 60 contains brief biographies. The management staff, charged with operational control of NCSCT, is based in Bloomington, Indiana. In July 1967, regional offices were established in San Francisco, Milwaukee and Boston. To that time NCSCT had part-time regional representation through associated television organizations.

The Center is operated on a non-profit basis as a separately-organized project of the Indiana University Foundation. Required administrative and technical services are provided the Center by Indiana University at customary cost. Policy control resides with a National Advisory Board.[4]

Television Materials

To provide an adequate supply of highly effective television materials, NCSCT explored three approaches: acquisition of existing materials, revision of promising courses and development of new materials. NCSCT continued its annual general evaluation of materials initiated in 1962 and *placed emphasis* on revising tentatively suitable materials. In areas where it was not useful to revise existing materials NCSCT stimulated the development of new materials by constructing strong partnerships with leading educators and outstanding instructional television production agencies.

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[3] The demonstration period was extended to 28 months to allow NCSCT to complete studies of needs in specific subject areas and fully assess acceptance of its materials.

[4] See page 64.

Because of the greatest use and subsequently the greatest demand for instructional television exists in elementary education, NCSCT stressed materials for this area. However, the Center also examined television's status in secondary education and began comprehensive evaluations of television's role in early childhood and higher education.

1. Evaluation and Acquisition

In each of its demonstration years, the National Instructional Television Library gathered and evaluated materials that could be made available on a national basis. Although the results of these evaluations were disappointing in terms of the quantity of materials judged to be suitable for widespread use[5] NCSCT continued evaluation of all available materials.

Methodologically, one lesson from each identified telecourse was viewed by NCSCT staff educators and instructional television specialists. On the basis of this screening, courses judged unsuitable were eliminated. Those with possibilities were evaluated by another group which screened additional lessons and carefully examined all related or integral materials. Courses selected for distribution were then evaluated in their entirety by content specialists and engineers.

The instrument used by NITL and NCSCT for general evaluation purposes from 1962 to 1967 is on page 66.

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5. See page 187 for the results of evaluations from 1962 through 1967.

2. Evaluation and Revision

In 1965, a promising addition to direct acquisition of existing materials was to revise specific courses whose content, presentation and production could be improved.

A number of series had been evaluated as *near misses*.[6] These are series that had such strengths as effective teachers, subject areas of demonstrated significance and wise organization, but because of inadequate preparation, minimal production support or inferior recording were not immediately ready for national distribution.

Because of the urgent needs of television for quantities of stronger materials there appeared to be much promise in reworking some of the *near miss* series. Fundamentally, the revision process initiated by NCSCT is the "revised production" part of the larger production cycle that includes "initial production, use, revised production, use, revised production." This cycle is the way in which several excellent instructional television courses had evolved. To NCSCT, this revision process seemed both logical and a method by which an adequate number of quality series could be obtained at a realistic cost in sufficient time to meet the most urgent needs of school television.

3. Development and Production

While NCSCT worked to fill the most crucial needs as quickly as possible through course revision, it also planned for the longer range development of highly significant and effective materials.

To determine the general nature of the materials needed by schools and colleges, the Center enlisted the assistance of content authorities, national professional and regional education and television organizations and major curriculum projects. To do this, NCSCT assembled separate groups, each concerned with a specific subject area, to chart emerging curriculum directions and areas of major subject matter and grade level concern where television might make significant contributions and to assess the adequacy of television in these areas.

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[6] See page 187 for the number of *near miss* series identified by five years of general program evaluation.

Specific evaluations of the status and potential of television were conducted in the areas of music, art, health and physical education, foreign languages, mathematics, science and the social sciences. Remaining is an assessment of language arts education. In large part these subject evaluations focused upon elementary education. However, wherever appropriate, the evaluations considered materials from other educational levels.

As has been mentioned, the Center committed itself at its establishment to comprehensive examinations of television's status and potential in secondary, higher and early childhood education. Special evaluations were accordingly designed for psychology and social work instruction at the level of higher education. An examination of television in early childhood education was initiated.

Field Services

The judgment of those concerned with the proper use of instructional television indicated in 1965 that this field, like any other complex and growing field, suffers communication problems. Thus, in 1965, the National Center for School and College Television undertook the responsibility of establishing and strengthening liaison with teachers, administrators and instructional television personnel across the country.

The Center carried forward its primary articulation responsibilities from its Bloomington, Indiana headquarters. Additional liaison on a regional basis was maintained through existing regional organizations: the Northeastern Regional Instructional Television Library, the Great Plains Regional Instructional Television Library and the Western Radio and Television Association.

Research and Information

Instructional broadcasters are concerned with a variety of problems related to the production, availability and use of effective television programing. In those areas where there were problems to be solved and where there were practical or theoretical advantages to be gained, NCSCT conducted research and disseminated its findings.

Thus, the Center's information service was designed to collect, analyze, maintain and disseminate data on such matters as course production planned or underway, programing practices, evaluation techniques, expenditures for television materials and reaction to courses available. The Center also studied questions relating to production processes, professional rights and distribution practices.

FINDINGS

Chapter 3

INSTRUCTIONAL TELEVISION (1965-1967)

To provide a meaningful context for NCSCT's activities, the status of instructional television in 1967 is discussed in this chapter. In its investigation of its field's status, NCSCT placed special emphasis on elementary and secondary education. This chapter is based for the most part on four published and two unpublished reports which NCSCT prepared or in which NCSCT participated: *The Status of Instructional Television, 1964; One Week of Educational Television, 1966; A Survey of Instructional Closed-Circuit Television, 1967; The National Compendium of Televised Education, 1967.* This discussion is also based on seven special quantitative and qualitative NCSCT assessments of particular subject areas;[7] a special examination of the size and growth of the school television audience; and a survey of the fiscal status of instructional television.[8]

Enrollments

Based on NCSCT studies of student enrollment data, the number of different elementary and secondary school students using instructional television since 1961 has been as follows:

1961-62 School Year	2,250,000
1965-66 School Year	6,550,000
1966-67 School Year	8,250,000
1967-68 School Year	9,990,000

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[7] Special reports of NCSCT's evaluation of specific subject areas are included on page 71.

[8] Preliminary conclusions from one of these studies, *A Study of the Size and Growth of the School Television Audience*, can be found on page 176. Final results of this study, together with the fiscal status survey noted here, are still being assembled.

These enrollment figures, it should be stressed, indicate different *individual* students from kindergarten through the twelfth grade now using instructional television.

The size of the school television audience is not ordinarily measured in terms of individual students. Rather it is measured in terms of a unit called "student enrollments"--the sum of "student exposures" to regularly televised instruction. Employing this approach students who regularly view lessons from two instructional series are counted twice in total television enrollment figures.

In 1967 total student enrollments for all educational levels were 20,625,000. Of that number higher education accounted for 465,000 enrollments and educational levels other than elementary and secondary accounted for 115,000 enrollments.

Total student enrollments for elementary and secondary education in 1967 were 20,045,000. Thus elementary and secondary education account for 97 percent of all student television enrollments in the United States.

However, the absolute size of the school television audience does not fully describe the growth of school television since 1961. *On a penetration basis, NCSCT judges that by 1967 television was being used by about 20 percent of the reachable school audience whereas only 11 percent of the reachable school audience was being served in 1961.*[9] The Center estimates that by 1975 one of every four students from kindergarten through the twelfth grade in the United States will be using television as part of his instruction.

Transmission Facilities

Students who receive part of their instruction by television are served by educational stations, closed-circuit installations, Instructional Television Fixed Service systems and commercial stations providing an educational service.

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[9] See page 180.

In spite of a rapid increase in the use of closed-circuit television, most instructional programing is still provided by educational television stations. Of the channels operated by stations 115 offered instructional television lessons for elementary or secondary grades in 1967. On the average these stations provided 22 hours 10 minutes of school and in-service teacher education programing each week. In a general sense, service to schools is a distinguishing characteristic of the contemporary educational television station. It is the predominant or exclusive daytime activity of most stations. It further serves as the economic foundation supporting much of the operations of educational television.

In addition to educational television stations, programing for elementary and secondary schools was provided by 260 educational institutions with closed-circuit facilities, 48 Instructional Television Fixed Service systems and several commercial stations. Closed-circuit installations are used almost entirely for formal education and range in size from the extensive system in South Carolina to facilities within a single school.[10] While the activity of commercial stations is noteworthy, their basic purpose is such that service to schools occupies but a small part of their total broadcasting.

It is significant that transmission facilities are increasing rapidly. In 1961 there were 56 educational television stations and approximately 325 educational institutions with closed-circuit facilities. (More than half of the closed-circuit facilities serve higher education.) In 1967 there were 127 educational television stations and approximately 651 educational institutions with closed-circuit and ITFS systems in the United States. It is estimated that this marked growth in transmission facilities serving education will continue.

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10. South Carolina is a good example to help distinguish what is meant by institutions and closed-circuit transmission facilities. South Carolina is regarded as one educational institution with 278 closed-circuit facilities.

Programing

As presented by educational television stations and closed-circuit systems, instructional programing is designed to function in three different ways. It is often intended to present the major content or all the basic concepts of a subject. This use of instructional television as a "major resource" still allows time for the classroom teacher to clarify, reinforce and extend the television presentation. Most instructional programing is used in a "supplemental" manner where the television lesson is designed to correlate with local courses of study but does not present all of the major content. Such courses usually reinforce classroom activities by providing unusual resources and treatments of content not ordinarily possible. Some programing is intended as "enrichment." Such programing is not related directly to the principal contents of courses of study but covers such desirable subjects as news, guidance and symphonic music. These categories of instructional purpose are not rigid. Programing intended originally as a major resource may be used best to supplement or enrich instruction depending on the particular conditions that exist in a given area, school or even different classrooms within a school.

Since existing materials were gathered for NCSCT's subject assessment conferences, those materials form the basis for most of the following quantitative analysis of instructional television programing in 1967.[11] *The Status of Instructional Television, 1964* contains a similar analysis.

Lessons in television courses are organized and broadcast as sequences covering specific subject matter aimed at a particular grade level or levels. More than 80 percent of the courses evaluated from 1965 to 1967 were at the elementary level. More than 50 percent of all courses were intended for grades four, five or six.[12]

The emphasis of instructional television activity at the elementary level is further revealed when most existing elementary and secondary materials are grouped into the seven major subject area divisions considered by NCSCT.[13]

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[11] 11. The materials considered are the total of those discussed and listed in Appendix VI within each subject area report. At the time of this report, television in language arts education was still to be evaluated.

[12] 12. See Table 1 on page 181.

Courses may also be classified as to individual lesson length, number in a course and frequency of transmission. Lesson length is related to grade level. About 80 percent of elementary grade lessons were 15 or 20 minutes in length.[14] The number of lessons in courses depends upon the frequency of lessons each week and the length of the course: a full academic year, a semester, a part of a semester. Courses ranged in number from two lessons to more than 120 lessons.[15] More than 60 percent of the time these courses were transmitted at the rate of one new lesson a week for a full academic year.[16]

The total number of hours devoted to instruction each week by educational television stations increased from 754 in 1961 to more than 2500 in 1967 and that the average number of hours each week increased from 14 in 1961 to more than 22 in 1967.[17]

Preliminary conclusions from a continuing NCSCT survey indicate that economic commitment to instructional television is increasing. In 1967 the median budget for instructional programing via educational television stations was $194,000, up from $142,000 in 1963. In 1967 the median cost of a 30-minute instructional program locally produced and excluding recording and transmission costs was $250, up from $175 in 1963.

Particular attention has been paid to production sources. While information was obtained from all types of facilities, the procurement pattern of educational television stations was especially significant. In 1962 almost 82 percent of all school programing was locally produced. Within four years, this percentage had been cut by half, bringing the 1967 figure of local production to 40 percent. This cutback in local production indicates the degree to which education is using other-than-local program sources.

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13. See Table 2 on page 182.

14. See Table 3 on page 183.

15. See Table 4 on page 184.

16. See Table 5 on page 185.

17. See Table 6 on page 186

Chapter 4

THE RESULTS

Within this context, then, NCSCT moved toward the establishment of a national program resource for instructional television. This section reports the Center's progress in stimulating the development and distribution of effective programing, in opening efficient communication channels and in creating a useful information service.

Television Materials

By September 1, 1967, NCSCT was providing programing in music, art, health, the humanities, language arts, mathematics, science and the social sciences.[18] For each of its television offerings, the Center offered related materials for classroom teachers. When required, materials are offered for the use of students.

Although NCSCT is exploring how it should develop television's role in early childhood, secondary and higher education, greatest emphasis has been placed on obtaining materials for elementary education where the need and the use are highest.

As outlined in Chapter 2, NCSCT employed three methods to obtain effective programing: evaluation of those courses whose owners wished them to be considered for widespread distribution, the revision of promising courses and the development of new materials.

1. Evaluation and Acquisition

In assessing the suitability of existing materials for widespread use, NCSCT was able to make some general assumptions. In a general way, courses to be distributed nationally were expected to present subjects and content commonly taught in most places. The courses must impress educators who determine what is to be offered in their locales. In a technical sense, master recordings must be of good quality, as wide distribution requires duplicate copies, each of which will be less adequate than the master. In a human sense, the teaching and production quality must be exceptional to satisfy the double standard that exaggerates local competence and diminishes outside achievement.

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[18] Appendix IX on page 189 presents brief descriptions of all NCSCT materials and source of their development as of September 1, 1967.

In assessing available series, NCSCT employs criteria and techniques that deal with their technical quality, content and instructional effectiveness. Technical assessment employs the same standards and methods applied to most educational television distributed nationally. Content is evaluated by subject matter experts responding to such broad items as relevance to curriculum, authenticity and organization of facts and ideas, suitability for grade level and currency.[19]

Of the 172 courses evaluated from 1962 to 1967, only 14 were found suitable for widespread use as they existed.[20] Reasons for judging most of what was evaluated unsuitable were

(1) Poor technical quality.

(2) The assumption that the materials would be used only locally restricted the resources that could be invested in consultants, research and planning. Assumption of local use also limited the predicted instructional effectiveness of materials.

(3) Too often, television teachers communicated poorly. They appeared more concerned with the material being presented than its effect upon learners. The content of many lessons was "clear only if known."

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19. The approach employed for these evaluations, panel evaluation, is discussed along with other possible approaches on page 191.

20. See Table 7 on page 187.

After five years of these evaluations, it appears that very few materials produced originally for local schedules are suitable for widespread use.

2. Evaluation and Revision

The more valuable result of NCSCT's periodic evaluation of existing materials was the determination that some courses had many excellent characteristics but were flawed by such things as poor recording or inadequate production support. While these *near miss* courses were not believed immediately suitable, it appeared likely they would be satisfactory if reworked.

Following each evaluation the Center sought to improve promising courses and related materials so they might be available for general use as quickly as possible.

In these instances, NCSCT interest, advice and involvement with the course made possible better planning and higher production standards. As a result of this activity during the 28 demonstration months, NCSCT was able to put into distribution seven enhanced courses[21] and to enter into agreements for the remodeling of five courses that will soon be available nationally.

As an illustration of the revision process, *Sing, Children, Sing,* a course of 15 lessons designed for the primary grades, had been used for five years in the northeastern United States prior to the Center's involvement with the course. NCSCT interest made possible reorganized lessons, improved production and recording, and music especially cleared for broadcast in all areas of the nation.

In another instance, *Tell Me A Story,* a course of 30 lessons designed for early childhood and primary grades, had been in use in the northeastern states in both original and revised forms for some time. NCSCT's interest made possible a further version incorporating upgraded staging and recording as well as use of copyrighted material for national use.

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[21] A description of enhanced courses and all other NCSCT materials is included on page 189.

The Communists, a course of eight lessons for senior high school students, was being used in California to provide students with essential knowledge about the growth and development of communism. The revision stimulated by NCSCT updated content and improved presentation.

3. Development and Production

Based on extensive evaluations of existing instructional television, it appears that much of it is of modest quality. As described earlier, panels of educators have evaluated programs from most courses available for general use. With few exceptions these materials represented the best of locally-produced instructional television. Yet the continuing judgment has been that most such recorded courses have only limited instructional effectiveness. A few are sound enough to be used as they exist and several more present possibilities of revision.

To stimulate higher standards of expectancy and production, NCSCT began in 1966 explorations of how television was being used and how television ought to be used in major subject areas.

The Status of Instructional Television: 1964 indicated major television activity in eight elementary and secondary curriculum areas. The Center began intense investigations into the status and potential of television in seven of the eight areas during the 28-month demonstration project. The eighth investigation, television in language arts education, will be conducted shortly.

Each investigation proceeded in much the same fashion. Each began with a national assessment conference at which specialists evaluated portions of television lessons and related materials representing almost every course being used in a specific subject. These evaluations gave the specialists the opportunity to form an overview of television in their discipline and to discuss the directions the medium should take.

In each instance, NCSCT has taken appropriate steps to insure that the initial evaluation moved toward the determination of whether new materials should be developed and, if so, in what manner. To insure a continuity of effort and production results, representatives of major instructional television production agencies attended each conference as potential producers.

On the basis of these extensive subject considerations, NCSCT is now engaged in several development projects. The Center has completed plans to produce six sequential levels of new materials in elementary art, science and physical education. The Center also has in various development stages similar projects in social sciences, music, mathematics, health, foreign language and early childhood education.

The pattern for new program development that has emerged from NCSCT's subject area deliberations combines the best available talent in instructional television production with equal educational expertise and incorporates extensive validation of production. Briefly, NCSCT's production pattern involves

. . . critical assessment of existing use of television.

. . . development of a blueprint that identifies and explains the content a television course in a specific subject area ought to embody.

. . . experimental development of presentation formats.

. . . perfection of a chosen format and testing of sample lessons.

. . . revisions, local broadcast and classroom feedback.

Each group of specialists was dissatisfied with the materials being assessed. However, in each instance, the specialists were drawn to television and its potential as a means of solving certain existing problems. Each group was concerned that television in education is perpetuating traditional concepts of method and content. Each group thought most of the television it viewed was didactic in approach with no provision for student exploration, discovery and creativity. Yet in each instance the central conclusion was that well-designed television materials could have a significant impact upon each discipline.

NCSCT is convinced that education will receive a more advanced generation of materials as a result of these subject area investigations and the production efforts caused by them. Because of their importance, each of the special subject area assessments is described below.

Art

In this instance, eight specialists in art and television education assessed television materials currently being used in art education and sketched directions for future television activity. In particular, they were concerned with what is being taught through television. They emphasized that almost always telecourses dealt with some aspect of the manipulation of materials. This, in spite of the fact that art education is concerned increasingly with ways to improve the child's response to art as opposed to the earlier stress on productive activity alone. The assessors concluded that telecourses clearly indicated an almost complete unawareness of the new direction.[22]

As an outgrowth of their concern, participants in the art education meeting recommended the initiation of a course planning project to develop guidelines for elementary school art instruction by television. During and after the meeting plans were formulated for such a project.

As a direct result of the NCSCT assessment conference in television in art education, a task force met to develop guidelines for the production of improved guidelines for the production of improved television materials for art education in elementary schools.[23]

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[22] The full report of the first in a series of meetings on television in art education is included on page 72.

The task force's master plan included a conceptual phase concerned with curriculum, experimentation to discover the most promising format and presentation devices, validated production of lessons, limited use of telecourses resulting in final revision and national availability. To insure continuity between phases, participants in the curriculum task force included persons who would ultimately produce television courses based on the guidelines being developed.

After developing a master plan, the task force perfected further a guidelines statement for television production. Those *Guidelines for Art Instruction Through Television for the Elementary Schools* were then evaluated, in a special study, by leading college and university art educators, state supervisors of art and supervisors of art in larger school systems across the country.

A panel of art historians, critics, teacher educators and school personnel supervising the teaching of art at local and state levels then met to discuss the *Guidelines* and the results of the special NCSCT evaluation.

The Guidelines for Art Instruction through Television for the Elementary Schools was then published by NCSCT.[24] The *Guidelines* is the backbone of the Center's project to produce new television materials for elementary art education. New television materials are now in the pilot stage of development and will be field tested during the 1968-1969 school year. The materials are being developed by NCSCT and the Denver (Colorado) Public Schools at educational television station KRMA in Denver.

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[23] The task force consisted of Donald Allen, Denver Public Schools; Manuel Barkan and Laura Chapman, Ohio State University; Frances Hine, Los Angeles County Schools; Al Hurwitz, Newton (Massachusetts) Public Schools; Hilda Lewis, San Francisco State College; Alice Schwartz, Pennsylvania State University; and Richard Sperisen, San Mateo (California) City Schools.

[24] The *Guidelines* are available from NCSCT.

Foreign Languages

Because of the amount of material requiring review in foreign languages, the assessment consisted of two meetings: a preliminary survey of all materials and in-depth analysis of the better telecourses. In these meetings the foreign language and television authorities concluded that "despite the generally poor quality of the programs so far, foreign language instruction by television is here to stay. It will be increasingly needed, especially in the elementary school; it can make a unique contribution, at all academic levels, by bringing the foreign country, culture and speakers into the classroom; its technical resources are otherwise unavailable in the classroom; and all of these resources provide motivation and depth of learning for the student and--for the local teacher--a broadened base for intensive systematic follow-up activities."

In their assessment, the foreign language evaluators emphasized that "there has been, in the name of economy, a tragic waste of money and time in the development of scores of locally produced television series, all of them starting from scratch, starving for funds and facilities and expert personnel, duplicating each other's mistakes, and eventually achieving a mediocre product which discredits the medium itself and the subject which it purports to teach. The stern fact is that good ITV, like the automobile and other high cost, high quality products, is feasible only with concentrated expert production and mass consumption."[25]

As a further step a small group of evaluators[26] conducted a depth analysis of certain existing materials. On the basis of this group's recommendations, NCSCT is investigating the possible acquisition of one existing course. This small group will continue to work with NCSCT in an effort to stimulate and create more effective materials for foreign language education.

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[25] See page 87 for the full report of the assessment conference.

[26] Leo Bernardo, director of the New Yor City Bureau of Foreign Language, Elton Hocking of Purdue University and Joseph Michel of the University of Texas.

Health and Physical Education

Twenty-five authorities on health, physical and television education assessed television materials presently being used in these content areas and outlined directions for future television activity. In particular, the evaluators were concerned about traditional concepts of method and content and about the didactic approach employed in most of what they viewed. The assessors concluded that television could have a significant impact upon health and physical education by providing a point of entry into the established curriculum of a school or college, serving as both a classroom resource and aid to the professional development of elementary school teachers, and reducing the cultural lag between new concepts and thier assimilation into actual educational practice.[27]

As part of the assessment, those concerned with collegiate health education considered the cooperative development of a collection of "core" presentations that would be available to all institutions of higher education for local use. A small study committee was formed to draft an approach for the entire group to consider in the near future.

In the area of physical education for school a long range project was initiated. The project encompasses the development of a fully articulated and contemporary sequence of television materials for physical education in elementary schools through experimental development of an effective television format, production of validated television presentations for use in each of six consecutive years and creation of related print materials for teachers. Curriculum planning is in the hands of a committee of physical educators.[28]

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27. See page 104 for the full report of the assessment conference.

28. Anita Aldrich, Indiana University; Naomi Allenbaugh, Ohio State University; Margie Hanson, American Association for Health, Physical Education and Recreation; Chalmer Hixson, Ohio State University; and Robert McLaughlin, Milwaukee Public Schools.

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[28] Anita Aldrich, Indiana University; Naomi Allenbaugh, Ohio State University; Margie Hanson, American Association for Health, Physical Education and Recreation; Chalmer Hixson, Ohio State University; and Robert McLaughlin, Milwaukee Public Schools.

Bonnie Gilliom, whose selection as the television teacher reflects the reaction of the assessment group that her previous television work represents the most effective teaching observed, has worked with the content committee from the beginning.

The results of this committee's activities are now being translated into television materials by NCSCT and educational television station WVIZ in Cleveland. The first level of a new generation of materials in physical education will be made available nationally in September 1968. The content group will continue its work through six sequential levels of materials for the elementary grades.

Language Arts

NCSCT will assess television in language arts education in the spring of 1968.

Mathematics

Eleven authorities on mathematical and television education assessed television materials presently being used in this content area and outlined directions for future television activity. The panel concluded that "Television teaching in mathematics is quite ordinary." While the content of programs is generally adequate it "ought to be more than adequate." The group was concerned that "There were mistakes in mathematics and the use of television as a medium was pitiful." Overall, the panel was of the opinion that "classroom instruction patterns had been transferred, like a decal, to television instruction."

In looking to the future, the assessors were convinced that "something must be done to make a television teacher more effective." They recommended "more professional--and more costly, perhaps--work on television programs... devoted to troublesome units of work and motivation."[29]

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[29] See page 121 for the full report of the assessment conference.

Intensive analysis of several existing courses and future planning is being carried forward by a small group.[30]

Music

Seven specialists in music education and educational broadcasting were disturbed by the poor musicianship displayed by television teachers and the generally poor quality of their teaching. The specialists noted that most lessons exhibited little imagination and very little concern for motivating the student.

On the positive side the conference concluded that television is being used widely in music education, it has a considerable number of desirable uses and certain elements of some courses are very promising.[31]

This assessment identified a musically accomplished television teacher. On the basis of the group's reaction, arrangements were made by NCSCT to revise the courses in which this teacher appeared in order to emphasize exemplary musical performance and works. The first level of this teacher's work, *Stepping Into Rhythm*, is now in distribution and a second level of materials featuring this teacher will be made available in September 1968.

Science

A similar group surveyed the adequacy and future of television materials in science education. The group concluded that while "television in education is apparently here to stay...the role of school television in science education needs to be clarified." To determine this role more clearly study of television in science education was recommended. Accordingly, additional meetings were held with science and television educators committed to the improvement of science television materials.[32]

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[30] Philip Peak of Indiana University; Myron F. Rosskopf of Columbia University Teacher's College; and David W. Wells of the Oakland County (Michigan) Public Schools.

[31] See page 135 for the full report of the assessment conference.

As a result of these meetings, NCSCT is now engaged with the Georgia Educational Television Network in the production of the first level of what will ultimately be six sequential levels of science materials designed for elementary use. A task force representing NCSCT and a special team of consultants from Florida State University are working on this science project.[33]

Social Studies

Twelve specialists, representing various colleges and universities as well as public schools and related professional groups, discussed television in this subject area by dividing the materials into four caregories: social studies, history, geography and civics-economics-government. While identifying major weaknesses in content and lesson presentation, they did point up several well produced lessons and some talented television teachers.

The specialists urged that television in this discipline assist the teacher and not replace him and asked that the problem-solving approach be used in courses organized around basic concepts. They felt that someone should take the initiative in aligning school television with the new trends and ideas in social studies education.[34]

Additional plans are now being developed by NCSCT to deepen its involvement in social studies education, especially in the elementary school. A special task

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32. See page 147 for the full report of the assessment conference.

33. The NCSCT task force consists of Donald Stottler of the Portland (Oregon) Public Schools; Mildred Ballou of Ball State University, Indiana; and Annie Sue Brown of the Atlanta (Georgia) Public Schools. The Florida State University consultants, who are working closely with the producers are, Martha G. Duncan, Charles C. Matthews, Darrell G. Phillips and Paul B. Westmeyer.

34. See page 161 for the full report of the assessment conference.

force is working toward the production of a contemporary affairs course to be developed around the concept of social change. After examining existing contemporary affairs television materials, the group, though disappointed, concluded that television could play a major role here.

Early Childhood

Fifteen specialists in this area joined the Center staff to evaluate materials currently in existence. NCSCT coordinated its evaluation of early childhood education with the activities of an NDEA Media Institute conducted at the Oregon College of Education in Monmouth, Oregon. As a result of the assessment activities, a special task force has been charged with the specific responsibility of developing a rationale on which television materials for early childhood education can be developed. A full report of NCSCT's activities in this area is now being prepared.

Higher Education

During the demonstration the Center assessed television in higher education in the United States and concluded negotiations to make available a significant collection of higher education television materials developed by the Harvard University-based Commission on Extension Courses and the U.S. Navy. The materials deal with subjects in the humanities, the social sciences and the natural sciences.

An assessment conference on television materials in social work education was conducted in association with the Council on Social Work Education. Three major conclusions emerged from the conference:

(1) There is an immediate need for television materials of less than telecourse length.

(2) There is a growing need for a counseling service to work with schools of social work education that want to turn to television but must have help to use and produce effective materials.

(3) Plans must begin for a research and demonstration project to test the effectiveness of television as a major tool in the improvement of social work education.

In conjunction with the American Psychological Association, NCSCT conducted an assessment of recorded television materials in psychology instruction.

While shortcomings and deficiencies were identified, the specialists determined that

(1) Television can best serve higher education by supplementing the work or plans of local instructors.

(2) Television can be used to present direct and primary experience better than it can be used to present conceptualization.

The conference concluded "It is obvious that instructional television has not been employed to its fullest advantage in teaching psychology. It is hoped that further exploration will yield many improvements in the use of the medium for this purpose."

NCSCT is devising ways to intensify its explorations of social work and psychology. As well, the Center, basing its activity on extensive staff work, plans further investigations of television in higher education and in continuing education.

However, the hard fact is that, in spite of the two assessment conferences and staff activities, there exists virtually no experience in the sharing of television materials for higher education. Accordingly, intensive investigation of other areas in higher education will be deferred until some results have been gained from the collection of existing materials now available from NCSCT.

Methods of Production

All of NCSCT's new programing is produced under the supervision of program associates. As has been noted NCSCT sometimes arranges with producers to improve existing materials. Direct acquisition of the best existing programing is usually arranged for by program associates.

Most of NCSCT's production is done by educational television stations. In each instance, station personnel and facilities are used, since NCSCT possesses no production facilities of its own.

Field Representation

Crucial to the activities of the Center has been the development of an efficient communication system to stimulate the widest and most desirable use of television in the nation's schools on the one hand and to reflect the attitudes, criticism and needs of American education on the other.

During the 28-month demonstration, contact with the field occurred in two phases.

For the first two years, the Center was represented on a part or shared-time basis by the existing instructional television libraries in the Great Plains and Northeastern regions and by the Western Radio and Television Association. Similar services were provided the southern region directly from the Bloomington headquarters.

In early 1967 it appeared that the best way of maintaining effective field contact was through the creation of independent NCSCT regional offices. By July 1967, three independent regional centers were in operation in the northeast, the west and the midwest and active planning for a fourth in the south was undertaken.

In effect, the regional centers are microcosms of NCSCT. Each office represents the Center in terms of programing and information activities.

With regional centers like these, NCSCT will be able to visit periodically every major instructional television installation in the United States. Thus enabling the Center to maintain close contact with sources of programing and information. Through personal visits regional representatives will gather data concerning each installation's physical plant, production capacities, personnel, preview and selection practices, existing program schedules and materials available for acquisition.[35] This kind of close contact together with periodic assessment of particular material supplants the annual evaluations of materials.

In addition to the face-to-face liaison established through regional center activity, NCSCT has maintained close contact with regional and national education and media organizations.

As part of its field activities, NCSCT is concerned with course promotion techniques, proper use of its materials, and the development of efficient techniques of duplicating and distributing materials.

1. Course Promotion Techniques

To stimulate use of its materials, NCSCT engages in direct mail campaigns, personal visits, national and regional meetings, and workshops and preview activities.

In promoting use of its materials, the Center has had success with a variety of mail campaigns and with exhibits and group presentations that explain its rationale and services. NCSCT's exhibits have been so successful that participation in major meetings and conventions is being expanded. To the present NCSCT has used table-top and full exhibit presentations that feature excerpts from NCSCT's full program offering.

To stimulate use of its materials, NCSCT also prepares special kits that contain one, two or three sample lessons and a copy of any related materials designed for use with the television offering. During the demonstration period, NCSCT distributed almost 1000 such inspection or preview kits.

2. Use of Materials

NCSCT courses are now used by almost every educational television station serving schools in the country and by a growing number of closed-circuit installations and

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[35] An outline of the data being collected by personal visits is included on page 196.

Instructional Television Fixed Service systems. The Center predicts a continually expanding use of materials related directly to the growth in installation facilities, in NCSCT's growing program inventory and in the heightened efficiency of the Field effort.

Of utmost importance is the reuse pattern that has emerged after 28 months of activity.[36] The fact that NCSCT courses are being reused 70 percent of the time reflects education's acceptance of NCSCT courses.

3. Duplication and Distribution

While mechanical factors tend to be slighted in this kind of activity, efficient operations have been and will continue to be crucial to NCSCT's goals. The Center's master recordings are technically evaluated and then duplicated by the Indiana University Radio and Television Service. The materials are distributed on video tape or film from the Indiana University Audio Visual Center.

Research and Information

To establish a central source of information about instructional television is a long-range NCSCT goal. The Center has moved as quickly as possible toward such a goal. This activity developed along two broad and interrelated lines: research and dissemination.

1. Research

Primary emphasis is on data relating directly to the field's activities especially as they affect NCSCT.

Information about the status of open-circuit instructional television programing was developed cooperatively with Brandeis University and the Carnegie Commission on Educational Television. With the bi-annual report *One Week of Educational Television* as a basis, items relating to instructional television were added so that the final report covered adequately the broadcast use of television in formal education.

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[36] See Table 8 on page 188.

One Week of Educational Television, Number 4, was published by NCSCT in early 1967. Since its 1960 establishment the report has been a highly useful survey of the total programing practices of the nation's educational television stations. The fourth such survey measured the program practices of the nation's more than 100 stations for the week of April 17 through April 23, 1966. It considered data in the areas of programs for general audiences, school audiences and college and adult audiences.

In a separate but related effort to gain a clear picture of the growth of school television NCSCT helped to plan and coordinate a National Education Association closed-circuit and Instructional Television Fixed Service survey. *A Survey of Instructional Closed-Circuit Television 1967*, together with *One Week,* permitted the Center to obtain a thorough and timely quantitative analysis of instructional television, helped identify program trends and program gaps and enabled reliable forecasts concerning future courses of action.

In an independent study of the size and the growth of the student audience (K-12) served by educational television stations, NCSCT measured the pace at which television is becoming an integral part of American education.

The first section of the special three-part study dealt with the current size of the school television audience. The second considered the growth of the school television audience. The third section, still in analysis, identified and described factors accounting for the trends established by the first two sections.[37]

Additional intelligence about the status of instructional programing was collected as part of the assessment conferences in specific subject areas.[38]

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[37] See page 176 for preliminary conclusions from this independent study.

[38] See page 71 for full reports for these conferences.

For each subject conference, the Center measured the activity of all educational television stations as well as a number of closed-circuit facilities. Based on these measurements, the Center prepared special quantitative analyses that described the activity in each subject area.

NCSCT, in cooperation with the Speech Association of America, also initiated a special symposium concerning television in the nation's secondary schools. Its purpose was to enhance articles being prepared for a special issue of the NASSP Bulletin and to assist NCSCT in formulating methods of more effectively serving secondary education. The symposium's participants included 12 educational broadcasters and educators who were preparing articles for the National Association of Secondary School Principals' publication on television in the contemporary and future secondary school.

Discussion at the symposium ranged from computerized closed-circuit systems to the establishment of a separate profession for television teachers, from color broadcasting to pleas for greater use of current commercial programs, from testing by television to predictions of growing local use of telecourses produced elsewhere.

While an entire transcript of the symposium is available from NCSCT, the symposium's central conclusion called for increased use of highly effective programing in the secondary school.

NCSCT also brought together representatives of national education organizations in Washington, D.C. to discuss possible uses of satellite communications in education. The purpose of the meeting was to brief educational leaders on the nature of possible satellite communication systems and to enlist their aid in determining the interest of schools in satellites. A second NCSCT meeting brought together representatives of adult education for the same reasons.

Executive secretaries of the nation's professional organizations--representatives of broad academic interests, special content interests, preschool education, higher education and adult education--were unusually enthusiastic about the potential of satellite communications for the schools. A special publication summarizing the satellite investigation is planned in conjunction with the Educational

Technology Office and the Center for the Study of Instruction of the National Education Association.[39]

2. Dissemination

From its beginning, the Center sought to disseminate as widely as possible the results of its research program as well as news of its activities in other areas.

The *NCSCT NEWS* was initiated as a way of reaching those concerned with the more effective use of television in education. Circulation of the *NEWS* has reached 10,000.

Special reports were published and made widely available for each subject assessment. The reports covered in each instance a quantitative analysis of the data collected, an overview of the discussion sparked by the materials evaluated and a list of all materials considered.

Special reports were also made available for such activities as the Symposium on Television in Secondary Education and the Conference on Satellite Communications.

NCSCT also initiated an information service that makes widely available the results of other research projects related to television. In this activity, for instance, the Center is making available the results of an Office of Education project entitled "A Demonstration of Programed Television Instruction," an effort to demonstrate new ways to use television for direct instruction.

NCSCT has worked through and cooperated with existing educational communication and dissemination channels whenever possible. Important steps have been taken in informing a number of journals of NCSCT's work. Among the groups with whom NCSCT has developed close liaison are the National Art Education Association, the Music Educators National Conference, the American Association for Health, Physical Education and Recreation, the National Council of Teachers of English, the National Council of Teachers of Mathematics, and the National Council for the Social Studies.

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[39] See page 200 for a special NCSCT *white paper* on the satellite conferences.

CONCLUSIONS

Chapter 5

CONCLUSIONS

It is clear that the use of television in education will continue to grow and that the urgent need for instructional television material of high quality will heighten.

Education, increasingly aware of television's value, is unable to rely on existing sources of programing for the kinds of materials necessary. There is, therefore, a need for NCSCT to accelerate the development of new programing while continuing to make widely available, through ever refining field communications, selected existing materials. Through expanded research activities the Center must involve itself and its advisors more and more in the development of new materials. Through regular field and dissemination efforts, the Center must continue to stimulate the wisest use of television in education.

As education and educational broadcasting become more deeply engaged in an effort to fulfill television's potential, special emphasis must be placed on developing materials for elementary education where the greatest use and subsequent demand now exist. However, both communities, acting in concert, must increase research and development activities in early childhood, secondary, higher and continuing education where needs for effective television materials are growing.

Because the National Center for School and College Television has made such an excellent beginning in developing effective materials in cooperation with distinguished educators and television production facilities, its National Advisory Board and the Project Evaluation Committee have recommended that the agency be made permanent and that at the very least its current activity level be maintained. The Indiana University Foundation has committed the support necessary to maintain the current directions and pace of NCSCT. The Center currently projects that it will become self-supporting by 1973. Both the Board and the Committee concur that expansion of the Center's activities are highly desirable.

SUPPLEMENTARY AND APPENDIX MATERIALS

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Appendix I

STATEMENT BY THE NATIONAL ADVISORY COMMITTEE OF THE NATIONAL INSTRUCTIONAL TELEVISION LIBRARY DEMONSTRATION PROJECT

Demonstration of the educational desirability and economic feasibility of exchanging recorded instructional television materials through the mechanism of a national agency working in cooperation with regional agencies has been excellently begun by the NDEA project called the National Instructional Television Library demonstration. The Library is operated presently by the National Educational Television and Radio Center.

The National Advisory Committee of the NITL believes it is highly important that this project be continued.

1. Instructional television is now recognized as a valuable medium of instruction throughout the United States at all educational levels, as well as for the in-service education of teachers.

2. The potential of this instructional medium can be realized fully only by the dissemination of programs of high quality.

3. It is current, professional judgment of ITV leadership personnel throughout the United States that there is urgent need for such high quality television materials.

4. It is judgment of these leaders that locally produced programs need to be supplemented with materials from other sources in order to strengthen the local ITV schedule.

5. These leaders urge that the NITL demonstration be continued as an effective means toward the solution of these needs.

6. Leaders in the southern, northeastern, mid-western and western regions of the United States desire that the NITL become a permanent activity.

7. Leaders in the south, northeast and west recommend an expanded national center for ITV concerned with the stimulation of high quality materials.

8. The NITL demonstration project was created originally in light of local, state and national needs comparable to those expressed above. In the months of its activity, it has identified available resources in every part of the country; evaluated these instructional materials; and evolved acquisition policies and procedures that recognize the economic and educational concerns of owners, professional rights and interests of television teachers, legal matters, distribution realities and needs of potential users. In addition, it has designed and is providing an information service consisting of current and detailed descriptions and examples of ITV course materials to all those interested in the instructional use of television. Further, it has stimulated a realistic appraisal of the planning and use of ITV course materials, and has made widely available selected courses that provide a valuable addition to local schedules and that serve as models of comparative excellence for ITV programs.

9. Many facts remain to be identified, many problems need to be solved, and much information needs to be disseminated respecting such matters as costs, engineering standards and administrative arrangements if American education is to make the best use of television for the instruction of students.

The National Advisory Committee of the NITL demonstration project believes it is urgent that the best possible contractor for the continuation of the project be found as soon as possible.

1. The demand for ITV courses of high quality is growing rapidly because of the increasing number of television facilities. This increase has been accelerated by the availability of state and federal support, equipment advances and the availability of new channels.

2. New installations need to rely heavily on the existence of readily available recorded materials. The very initiation of a new instructional television facility often depends upon the availability of such recorded materials.

3. In addition to sizable expenditures in the past, considerable investments are now being made in excellent transmission facilities. School administrators, teachers, students, parents, taxpayers and legislators should rightly expect the dissemination of programs commensurate with these facilities.

4. Inability to satisfy these initial and continuing expectations for quality programs can retard and frustrate the future use of ITV.

5. Materials of high quality can be made available for both old and new ITV installations if the momentum gained by the NITL project is maintained and the project becomes a permanent activity.

To assist the Office of Education assure the success of the NITL project, the National Advisory Committee suggests certain general considerations and specific criteria for the relocation of the project.

In general, relocation arrangements should respect the original objectives of the NITL. These objectives are

1. determination of the characteristics of a permanent, national materials service.

2. initiation and continuance of a significant national service that ultimately will achieve economic self-sufficiency.

To effect these objectives two operational phases have been designed. First, a demonstration phase to evaluate available courses at all educational levels, acquire distribution rights for several courses, duplicate and distribute tapes and films for broadcast, provide preview and information material, conduct field visits, meetings, investigate, gather and assess information relevant to the project, and to create a model of a permanent national library system for the exchange of ITV materials. Second, a service phase where the major activities of the national library are most likely to be in the areas of finance and materials. Initially, supporting monies will have to be found to augment income generated by a national service. At the same time the service will need to expand its procurement and distribution of course materials.

Against the background of these general considerations certain specific criteria for relocation can be enumerated. The NITL will have the best prospects for success if it is associated with an established educational agency:

1. Experienced in:
    a. National distribution of instructional materials
    b. Instructional television at all educational levels
    c. Production of quality instructional materials
2. Having a national reputation for leadership in the educational media field.
3. Whose administration has a genuine and long term interest in the concept of an instructional television library.
4. Having, or being able to obtain without too much difficulty, a competent staff for NITL.
5. Within which the NITL can retain distinctive identity.
6. Centrally located with respect to transportation.
7. To which transfer of the NITL can be effected without interruption of service.

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Portland, Oregon

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Dean of Teachers College
University of Nebraska
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Ex officio:

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Northeastern Regional Instructional Television Library
Eastern Educational Network
238 Main Street
Cambridge, Massachusetts

Mr. Paul H. Schupbach, Director
Great Plains Regional Instructional
  Television Library
University of Nebraska
Lincoln, Nebraska

Appendix II

ADVISORY STATEMENT FROM STATE LEADERSHIP PERSONNEL CONCERNING INSTRUCTIONAL TELEVISION PROGRAM EXCHANGE

Between September 16 and 26, 1963, four regional meetings were called by the National Instructional Television Library with the authorization of the Educational Media Branch of the United States Office of Education for the purpose of providing advice and information for the Advisory Committee on New Educational Media.

Representatives from 41 states and the District of Columbia met to identify and consider the major needs for instructional television materials in the future and the relation of instructional program exchange to these needs.

In each of the regional meetings there was complete agreement that the areas of greatest concern are

1. The urgent need for high quality television materials.
2. The need to supplement local resources with the most useful materials available from other sources.

Rapid progress toward the solution of these needs is essential. Accordingly, we urge that the National Instructional Television Library, and the regional libraries associated with it, be continued through the remainder of the demonstration period.

In view of the accomplishments of the Library Project and in light of the impetus being given to the expansion of instructional television through state and federal support, we believe that consideration must be given soon to an enlarged and permanent national and regional instructional television library service of the highest quality.

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Graydon Ausmus
Director, Broadcasting Services
University of Alabama

Edwin L. Williams, Jr.
ETV Coordinator
State Department of Education

CALIFORNIA
Everett Chaffee
Associate Superintendent
Division of Instructional Services
Los Angeles City School Districts

James Day
General Manager
Station KQED

Victor Hyden
Director, School Telecasts
Station KVIE

R. B. Walter
Chief Deputy Superintendent
Los Angeles County Schools

COLORADO
Gerald Willsea
Director of Radio and Television Activities
Station KRMA-TV

CONNECTICUT
Alfred L. Villa
Consultant, Audio Visual Education
State Department of Education

DISTRICT OF COLUMBIA
Mary Jane Phillips
Educational Coordinator
Station WETA-TV

FLORIDA
Harvey Meyer
Dean, Division of Radio and Television
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GEORGIA
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University of Georgia

IDAHO
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Head, Telecommunications
University of Idaho

ILLINOIS
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Supervisor of Instructional Television
Department of Public Information

INDIANA
Jane Grills
Office of Television Instruction
Indiana State University

IOWA
Clifford Kessler
ETV Coordinator
Department of Public Information

KANSAS
Gerald K. Barker
Director of Educational Television
Washburn University of Topeka

KENTUCKY
O. Leonard Press
Executive Director
Kentucky State Educational Television Authority

LOUISIANA
Lucile Ruby
Director, Recording Services
Louisiana State University

MAINE
John W. Dunlop
General Manager
State of Maine Educational Television Network

MARYLAND
Wesley Dorn
Director, Research and Development
State Department of Education

MASSACHUSETTS
David M. Davis
Assistant General Manager for Television
Station WGBH-TV

Alan R. Stephenson
Director
The 21 Inch Classroom

MICHIGAN
Charles Ruffing
Coordinator of In-School Programs
Station WMSB

MINNESOTA
John C. Schwarzwalder
General Manager
Station KTCA-TV

MISSOURI
James Hazlett
Superintendent of Schools
Kansas City

MONTANA
Homer Loucks
Director of Instructional Services
Department of Public Instruction

NEBRASKA
Jack McBride
Director of Television
University of Nebraska

NEVADA
Donald Potter
Director of Audio Visual Services
University of Nevada

NEW HAMPSHIRE
  Keith Nighbert
  General Manager
  Station WENH-TV

NEW JERSEY
  Robert Pellet
  Project Director
  New Jersey Educational Television Corporation

NEW MEXICO
  E. Wayne Bundy
  Program Manager
  Station KNME-TV

NEW YORK
  Bernarr Cooper
  Chief, Bureau of Mass Communications
  State Education Department

NORTH CAROLINA
  John Young
  Director of Television
  University of North Carolina

NORTH DAKOTA
  M.F. Peterson
  Superintendent
  Department of Public Instruction

OHIO
  William H. Ewing
  Associate Director
  Telecommunications Center
  Ohio State University

  Helen Seel
  Supervisor, Radio and Television
  Cincinnati Public Schools

OREGON
  Luke Lamb
  Director of Educational Media
  College Campus, Corvallis

PENNSYLVANIA
Rhea Sikes
Director of School Services
Station WQED

RHODE ISLAND
Robert Danilowicz
Audio Visual Section
Department of Education

SOUTH CAROLINA
R. Lynn Kalmbach
General Manager
South Carolina Educational Television Center

SOUTH DAKOTA
Martin Busch
Director
Station KUSD-TV

TENNESSEE
Robert Glazier
General Manager
Station WDCN-TV

TEXAS
Robert Schenkkan
Director, Radio and Television Services
University of Texas

Lee J. Wilborn
Assistant Commissioner for Instruction
Texas Education Agency

UTAH
Daniel A. Keeler
Director, Educational Television
Department of Public Instruction

VERMONT
Ray V. Phillips
Director
Summer Session and Evening Division
University of Vermont

WASHINGTON
  James Hardie
  Supervisor, Audio Visual Services
  Department of Public Instruction

  Loren B. Stone
  Manager
  Station KCTS-TV

WISCONSIN
  Harold B. McCarty
  Director, Division of Radio-Television Education
  University of Wisconsin

WYOMING
  Monroe C. Neff
  Coordinator of Special Projects
  University of Wyoming

Appendix III

NCSCT STAFF
(1965-1967)

Administration

Executive Director -- Edwin G. Cohen
Business Manager -- Roderick Rhea

Program Development and Course Acquisition

Director -- Robert W. Fox
Program Associate -- Rafael Gladfelter
Program Associate -- Frank W. Norwood

Field Services

Director -- Donald L. Sandberg
Operations Manager -- Michael Smith
Regional Representative,
    Eastern Office -- Margaret Thompson
Regional Representative,
    Midwestern Office -- William Perrin
Regional Representative,
    Western Office -- Patricia Nemes

Information Services

Director -- Edward J. Pfister
Editor -- Clarence H. Allen
Writer -- Lois Schenck

Administration

Edwin G. Cohen -- Executive Director

Mr. Cohen was the director of the National Instructional Television Library from 1961 to 1965. From 1958 to 1961, he was with the National Educational Television and Radio Center. Prior to that he was the supervisor of the NET Film Service at Indiana University.

Roderick Rhea -- Business Manager

Mr. Rhea was engaged for a time as research analyst at NCSCT. Prior to this he was assistant manager for a drug chain in Bloomington, Indiana, and was collection manager for a year with Hertz Rent-A-Car in New York.

Program Development and Course Acquisition

Robert W. Fox -- Program Development and Course Acquisition Director

Mr. Fox was formerly television curriculum director for the Delaware ETV Network. From 1961 to 1965 he as instructional coordinator at educational television station KLRN at the University of Texas and a lecturer on television utilization at the University.

Rafael Gladfelter -- Program Associate

Mr. Gladfelter was formerly with the United States Army Command and Staff College as production director and educational television consultant for the Instructional Branch, Educational Television. From 1961 to 1964 Mr. Gladfelter was an assistant producer and production director at KCSD, Kansas City.

Frank W. Norwood -- Program Associate

Mr. Norwood was College Television Coordinator at San Diego State College before joining NCSCT. Prior to this, he was writer-producer at KSLH in St. Louis. In 1955-1956 he was assistant to the director of the Institute for Education by Radio-Television at Ohio State University and writer and assistant producer for television at the University of Missouri.

Field Services

Donald L. Sandberg -- Field Services Director

For eight years prior to joining NCSCT, Mr. Sandberg served in various executive capacities at National Educational Television. Prior to NET, he was engaged in public education in Indiana.

Michael Smith -- Operations Manager

Prior to joining NCSCT, Mr. Smith was assistant traffic manager/studio technician at the Delaware ETV Network. Before that, he was a staff producer-director at WTMJ-TV, Milwaukee's NBC affiliate.

Margaret Thompson -- Regional Representative, Eastern Office

Before joining NCSCT, Miss Thompson was administrative assistant at the Eastern Educational Network. From 1963 to 1965, she was Director of Promotion and Publicity for the State of Maine Educational Television Network.

William Perrin -- Regional Representative, Midwestern Office

Mr. Perrin was formerly the Instructional Television Coordinator at the Milwaukee Educational Television Center, WMVS/WMVT. Prior to that he was a teacher in the Milwaukee Public Schools.

Patricia Nemes -- Regional Representative, Western Office

Miss Nemes, who has been engaged in television for some time, helped establish NCSCT activities in the western United States in 1965. She has been active in the work of the Western Radio and Television Association.

Information Services

Edward J. Pfister -- Information Services Director

Mr. Pfister was formerly chief of information services at National Educational Television. Before joining NET, he was a newspaper reporter and a secondary teacher.

Clarence H. Allen -- Editor

Mr. Allen is a retired Air Force officer. He was director of public relations with Whirlpool Corporation and editor of Engineering Publications for Ford Motor Company.

Information Services (cont.)

Lois Schenck -- Writer

Mrs. Schenck writes criticism in music and drama. Before joining NCSCT, she was assistant editor at the Columbia University Press and earlier on the staff of San Francisco Magazine. She has taught French and English.

Saul Rockman -- Research Analyst

Mr. Rockman is a candidate for the Ph.D. in Mass Communications at Indiana University.

Paul Schneller -- Research Analyst

Mr. Schneller is a candidate for the Ed.D. in Educational Media at Indiana University.

Appendix IV

NATIONAL ADVISORY BOARD
(1965-1967)

National Center for School and College Television

Kenneth A. Christiansen
Director of Television
University of Florida

The Reverend John M. Culkin, S.J.
Consultant on Television
National Catholic Educational Association

William H. Flaharty
Deputy Commissioner of Education
State of Connecticut

Lawrence T. Frymire
Educational Television Coordinator
State of California

Robert O. Hall
Director of Instructional Resources
California State College at Hayward

Robert B. Hudson
Vice-President
National Educational Television

James R. Jordan
Assistant to the President for University Relations
Indiana University

Lawrence C. Larson
Director
Audio-Visual Center
Indiana University

Jack G. McBride
General Manager
Nebraska Educational Television Commission

John Meaney
Assistant to the Chancellor
University of Texas

Lloyd S. Michael
(Vice-Chairman)
Superintendent
Evanston Township High School

Wendell H. Pierce
Superintendent
Cincinnati Public Schools

Harold E. Wigren
Educational Television Consultant
National Education Association

Lee J. Wilborn
(Chairman)
Assistant Commissioner for Instruction
Texas Education Agency

Elizabeth C. Wilson
Director of Curriculum Services
Montgomery County, Maryland

Ex Officio Board Members

M. Virginia Biggy
Director
Northeastern Regional Instructional Television Library

Edwin G. Cohen
Executive Director
National Center for School and College Television

Paul H. Schupbach
Director
Great Plains Regional Instructional Television Library

Robb Taylor
Dissemination Branch
U.S. Office of Education

Kenneth Winslow
Executive Director
Western Radio and Television Association

Appendix V

TELEVISION LESSON EVALUATION FORM

____
Series No.
____
Lesson, Title & Number
____
Evaluator

TELEVISION LESSON EVALUATION FORM

Instructional Effectiveness

This form has been designed to help you estimate objectively the instructional effectiveness of the television lesson you have just viewed (i.e., how well the learners will learn from it). Please read each item carefully and place a circle around the number which represents your best judgment of the degree to which the program satisfies each criterion. In addition, make any comments you wish under each item that will help describe the factors entering into your evaluation.

1. Are the instructional objectives as stated or implied in the lesson made clear in the film?

Ambiguous				Clear	
1	2	3	4	5	6

2. Does the content of the program relate closely to the main objectives, or are there many irrelevancies?

Many irrelevancies				Closely related	
1	2	3	4	5	6

3. Is the manner of presenting the content appropriate to the age, educational experience and intelligence of the intended audience?

Inappropriate				Appropriate	
1	2	3	4	5	6

4. Is the amount of time taken to develop each concept, procedure, or example appropriate or inappropriate?

Inappropriate				Appropriate	
1	2	3	4	5	6

5. Is the content structured or organized in a way that will facilitate learning?

Organization confusing				Good, clear organization	
1	2	3	4	5	6

6. Are the techniques used to involve the learners, either overtly or covertly, relevant or irrelevant?

Irrelevant				Relevant	
1	2	3	4	5	6

7. Is the amount of material covered appropriate or inappropriate for the film length?

Inappropriate				Appropriate	
1	2	3	4	5	6

8. Does the presentation provide for adequate repetition of the main ideas? (e.g., Summaries of main points from time to time and at end; repetition with variation.)

Inadequate				Adequate	
1	2	3	4	5	6

9. Are the techniques to encourage the student to go beyond the actual lesson by further reading or study adequate or inadequate?

Inadequate				Adequate	
1	2	3	4	5	6

10. Does the lesson appear to be related to students' personal learning goals?

Unrelated				Related	
1	2	3	4	5	6

11. Does the presentation effectively utilize the video channel of television? (e.g., Uses appropriate pictures, film clips, demonstrations, diagrams, etc.)

Ineffective use of visualization				Effective use of visualization	
1	2	3	4	5	6

12. Is the visual presentation that is made clearly perceivable by use of good lighting, appropriate camera shots, sharpness of details, pointers, suitable backgrounds, etc.?

Visualization inadequate				Visualization adequate	
1	2	3	4	5	6

13. Is the audio intelligible?

Audio difficult to understand				Audio clearly intelligible	
1	2	3	4	5	6

14. Is the vocabulary appropriate for the intended audience?

Vocabulary inappropriate				Vocabulary level appropriate	
1	2	3	4	5	6

15. Is there a mutual integration of video and audio?

Poor integration of video and audio				Good integration of video and audio	
1	2	3	4	5	6

16. Does the presentation give the impression of conviction and sincerity?

Appears insincere or phony				Appears convincing and sincere	
1	2	3	4	5	6

17. Will the presentation sustain the learners' interest and attention?

Monotonous or boring				Interesting throughout	
1	2	3	4	5	6

18. Will the presentation make the learner want to learn what is in the lesson?

No motivation provided				Strong motivating elements	
1	2	3	4	5	6

19. Does the personality, voice and appearance of the television teacher or teachers add to or detract from the effectiveness of the presentation?

Detracts				Enhances presentation	
1	2	3	4	5	6

20. Does the teacher appear on camera for an appropriate amount of time?

Inappropriate				Appropriate	
1	2	3	4	5	6

21. Does visual material other than the teacher appear on camera for an adequate amount of time?

Inadequate				Adequate	
1	2	3	4	5	6

22. Does the studio setting enhance or detract from the instructional effectiveness of the lesson?

Setting distracting				Setting appropriate, enhances effectiveness	
1	2	3	4	5	6

23. How would you rate this lesson overall?

Very poor		Average		Outstanding	
1	2	3	4	5	6

Recommendations

1. Do you recommend this course, without any revisions, for further consideration for distribution?

Yes_______ No________

2. Does this course have possibilities for being remade in order to be suited for distribution by a national distributor?

Yes________ No________

If yes, what are the strengths?

What needs to be remade?

Appendix VI

REPORTS OF NCSCT SUBJECT AREA ASSESSMENTS

List of Reports

Art Education 72
Foreign Language Education 87
Health and Physical Education 104
Mathematics Education 121
Music Education 135
Science Education 147
Social Studies Education 161

Part 1

INSTRUCTIONAL TELEVISION IN ART EDUCATION

This report concerns the National Center for School and College Television's conference on television in art education. The conference was conducted to assess television materials now being offered in art areas in an effort to stimulate the development of increasingly effective television materials for the nation's schools. The report is divided into four sections.

*Part I is a status report of art telecourses being offered in the United States by educational television stations during the 1965-66 school year.

*Part II is an overview of the discussion among the eight art and instructional television authorities who participated in the conference.

*Part III is a tabular breakdown of the information gathered for the conference. Here at a glance is what is being offered to students across the country.

*Part IV is a listing of descriptions of the art telecourses offered in 1965-66. The descriptions are from the sample lessons and printed information made available by stations for the conference.

The educational and instructional television authorities at the conference reviewed printed materials (Teacher's Manuals), viewed sample lessons from telecourses, and, during the final session, considered the state of television in art education.

The eight authorities who joined the NCSCT staff at the conference are Manuel Barkan of Ohio State University; Vincent Lanier of the National Art Education Association; Gerald Willsea of educational station KRMA, Denver; Erling Jorgensen, associate director of the Instructional Media Center at Michigan State University; Harlan Hoffa, art educational specialist of the United States Office of Education; Hilda Lewis of San Francisco State College; Ben Bohnhorst, general manager of the Mid-West Program on Airborne Television Instruction; and Mary Rouse of Indiana University.

Part I--The Status of ITV in Art Education

For this study, NCSCT sent questionnaires to 115 educational television stations. This section of the report is based on information contained in the replies of 102 ETV stations. This report does not consider materials developed or offered by commercial television stations and is concerned only with materials used in classroom instruction.

Of the 102 stations replying to the questionnaire, 67 reported the use of one or more telecourses on art education in their broadcast schedules. The 90 art telecourses in use during the 1965-66 school year were produced by 38 stations. Twenty of these telecourses were being used by more than one station.

ELEMENTARY GRADE LEVEL

GRADE EMPHASIS Of the 90 reported art telecourses, 82 were intended for elementary grade level use. Fifty-seven percent of the elementary grade level telecourses were designed for the primary grades (K-3) and 43 percent were designed for the intermediate grades (4-6).

LENGTH OF LESSONS On the elementary level, almost half (45 percent) of the telecourses had lessons fifteen minutes in length. The remainder of the telecourses had lesson lengths of twenty minutes (38 percent), twenty-five minutes (5 percent), and thirty minutes (12 percent).

NUMBER OF LESSONS IN TELECOURSE The number of lessons in a telecourse was dependent upon the frequency of weekly or monthly broadcast and whether telecourses were intended for use throughout an entire school year, only one semester, or part of a single semester. The number of lessons in the telecourses in art education ranged from 6 to 80. Most of the telecourses (42 percent) had from 31 to 40 lessons. These were normally broadcast at the rate of one lesson per week for the full academic year. The second largest grouping (27 percent) had from 11 to 20 lessons. These were designed for broadcasting one lesson per week for a semester. The remaining telecourses were distributed in these groupings: 1-10 lessons (9 percent), 21-30 lessons (18 percent), and over 40 lessons (4 percent).

BROADCAST FREQUENCY OF LESSONS Sixty-seven percent of the telecourses had one lesson broadcast weekly. Nineteen percent of the telecourses had two lessons broadcast each month. The remaining 14 percent were broadcast at various rates ranging from five lessons per week to one lesson every three weeks.

RECORDED OR UNRECORDED At the elementary level, 82 percent of the telecourses were recorded for re-use. The remaining 18 percent were unrecorded.

OUTSIDE COURSES Twenty-two percent or 20 elementary telecourses were used by more than one station. These 20 telecourses, produced by eight stations, accounted for almost one half of total art telecourse material broadcast.

SECONDARY GRADE LEVEL

GRADE EMPHASIS Six of the 90 art telecourses were intended for the secondary grade level. Three were designed for grades 7 and 8, and three for grades 9 through 12.

LENGTH OF LESSONS Four of the six telecourses had lessons 30 minutes in length. The fifth had lessons 20 minutes in length and the sixth had lessons of 15 minutes.

NUMBER OF LESSONS IN TELECOURSE The number of lessons making up the telecourses ranged from 9 lessons to 37 lessons. Four of the telecourses were in the 11-20 lesson grouping. The fifth telecourse had 9 lessons, and the sixth, 37 lessons. Four telecourses were designed to be used for one semester.

BROADCAST FREQUENCY OF LESSONS At the secondary grade level, four of the telecourses were broadcast at a rate of one lesson per week. Two of the telecourses had two lessons broadcast monthly.

RECORDED OR UNRECORDED All of the secondary grade level art telecourses were recorded for re-use.

OUTSIDE SOURCES At this level, no telecourse was used outside the producing station.

IN-SERVICE TEACHER EDUCATION

LENGTH OF LESSON Of the 90 art telecourses, only two were designed for in-service teacher education. Both of these telecourses were 30 minutes in length.

NUMBER OF LESSONS IN TELECOURSE One of the in-service telecourses was designed for use over a one semester period and contained 6 lessons. The other telecourse was intended for a full school year's use and contained 32 lessons.

BROADCAST FREQUENCY OF LESSONS Of the two telecourses, the one made up of 6 lessons was broadcast at a rate of two lessons per month. The 32-lesson telecourse had one lesson broadcast each week.

RECORDED OR UNRECORDED Both of the in-service art telecourses were recorded and available for replay.

OUTSIDE SOURCES Neither of the in-service telecourses was used outside the producing station.

Part II--An Overview

A group of nationally known art educators and representatives of educational television met at the National Center for School and College Television in Bloomington, Indiana, to survey the adequacy of telecourses in art now in use across the nation and to develop guidelines for the production of future art telecourses. During the conference they viewed portions of some 70 courses that represented the bulk of what was transmitted to schools during the 1965-66 academic year. They were able to review enough of each lesson to permit valid judgements.

Though the art educators were especially critical of current classroom practices in art education that lead to similar practices in most of the television lessons they sampled, both they and the broadcasters concurred that instructional television can play a most significant role in this field if adequate materials are developed.

The art educators were particularly annoyed at the apparent breakdown in communications between leadership in art education and those working in the nation's art classrooms.

What has happened in art education, according to one conferee, is that "the best thinking in the field has changed quite radically in the last half dozen years so that the people who are now operating in the field--even those who are good--are now operating on the basis of what were conceived to be good ideas five, six, seven, and eight years ago."

TV Has Unique Opportunity

Television, as a vital instructional medium, has the unique opportunity, in the words of one of the art educators, "to bring up to date the instructional thinking of the people in the field, the classroom teacher, and the supervisor."

Several other comments were made regarding the potential of instructional television in art education:

"What we want to get across, is that art is something guttural, something highly significant...that the painter, the potter, the sculptor addresses himself to significant and major human problems...that they deal with the primary human issues of who are we, where are we going, why are we here.... These are fundamental issues and growing out of these are many other human problems. This is what television can put across--dramatically and visually."

"If art is going to be taught in the schools, something really radical has to be done; here's an instrument where some quality can be brought into the classroom."

"...what we need are new concepts in the field; some of them are beginning to emerge and they can perhaps be better exploited by television than in some of the more classical, traditional means."

"...it makes good sense for us to think of developing television materials that reflect the most contemporary point of view."

"Don't underestimate the honorific aspects of television today--it's in every home and it's an instrument of authority...I think in the sense of being a catalyst for instructional change it can really provide the service we think it can because it does have a tremendous authority--the kind of authority the college professor's textbook may well not have."

As a matter of fact, so great was the conferees' enthusiasm concerning these possibilities, definite plans were made to insure that more adequate materials would become a certainty.

Participants Voice Criticism

During the portion of the conference devoted to the viewing of existing telecourses, the participants voiced strong criticism concerning several points: the unimaginative use of the medium, the poor quality of teaching, and, most of all, the totally unsatisfactory nature of what was being taught. In expanding this last criticism, the conferees emphasized that the telecourses almost without exception dealt with some aspect of the manipulation of materials--a practice that represents a point of view now considered obsolete. There were a great number of manipulatory activities shown including much papier-mache, puppetry, and work with clay, cloth, metal, and a variety of other materials. Additionally, a search of the teacher's manuals accompanying these sample television lessons showed that almost every telecourse included many kinds of materials and activities arranged in unrelated and illogical fashion.

Apart from the fact that the "breadth" approach to art instruction has been discredited for some time in art education, the participants pointed out an even more significant shift has taken place with respect to the general objectives of the field. This change can be briefly described as an increasing concern with ways to improve the child's response to art (other's products as well as his own) as opposed to the earlier stress on productive activity alone. They agreed that these telecourses clearly indicated an almost complete unawareness of this new direction.

One educator explained that the approaches shown in these telecourses (the stress on manipulatory activities and inclusion of such a wide variety of materials) originally came about because art educators for many years tended to construct curricula on the basis of only one model: that of the artist. The feeling now exists among the leaders in the field that much better curricula can be developed by the employment of multiple models. Thus the model of the artist will continue to be relevant but those of the critic and the historian will find equal importance.

The educators were quick to emphasize that the unawareness of new trends evidenced in the telecourses is not unique to this medium alone. Indeed, it is dishearteningly evident at all levels of art education and forms one of the most pressing problems presently confronting the field. The cause undoubtedly can be ascribed to poor communication between the leading thinkers and those working elsewhere across the country, poor communication resulting in a gap between planning and action. As has been pointed out, this gap is now so large that the majority of art teachers currently are operating on the basis of what was thought to be good practice a half-dozen years ago.

Points of Consensus

The conferees were questioned as to what might be done to make future telecourses more adequate in terms of content. They agreed that although the thinking of the leaders may not yet be completely unanimous concerning all of the purposes of art programs, there are at present enough points of consensus on which to base a series of TV lessons and accompanying materials. These points are:

1. The manipulation of materials alone is no longer adequate and the "cafeteria approach" (one material today and another tomorrow) is particularly inadequate.

2. Children must be taught how to look at art and how to make judgments about works of art and other objects in the environment, both natural and man-made.

3. Children must be helped to develop their abilities to verbalize about art.

4. Art experiences concerned with both response and production must begin when the child first enters school and continue in increasingly complex patterns which match the child's progress in achieving

higher levels of perceptual and conceptual maturity. This requires a structured, sequential program.

The group then moved on to other points of criticism with the intent of providing explicit assistance for the developers of future productions. One major item of agreement was that most of the television materials exhibited a disturbingly low level of professional polish and imagination. This failing was particularly noticeable in the handling of the cameras which were usually operated in static, unmoving patterns. One participant summed up the group's views when he said, "The cameras just sat there.... There must be some better and more imaginative way of using them rather than simply that of moving thirty kids out of the classroom and two cameras in." The conferees suggested that camera shots might well stress close-ups of the art objects under discussion instead of focussing on the teacher or the "talking face."

The art educators felt that while this unimaginative handling might well be disturbing to other subject-matter fields it was particularly damaging for an area which, almost by definition, is assumed to be both visual and creative. This, they pointed out, should be classed as an outstanding example of how *not* to practice what one preaches.

Other considerations to be made, they continued, include that of a more careful selection of the individuals who are to serve as instructors for these courses. While they would not go so far as to list the exact characteristics to be desired in these television teachers they did agree that, above all else, such persons must be able to communicate a deep personal commitment and involvement in art.

The question of whether teacher's guides or manuals are important adjuncts to the courses was also considered. While the group felt that those accompanying the current telecourses showed little content of any significance and were disappointingly structured as well, they were somewhat divided as to the ultimate value of this type of written material. One participant held that a well-constructed series of programs should be entirely self-contained and would need no additional material. Others however, pointed out that teachers who use telecourses in the classrooms most often desire some kind of advance information on what to expect and why. Most conferees agreed that it probably would be valuable to include suggestions as to other supplemental materials and sources which the teachers and pupils could consult if they desired.

Conference's Last Day

The most important part of the conference occurred in the final portion of the last day in which definite plans were made for the development of telecourses to be designed in accordance with the new goals and most recent thinking of the field. The group was convinced that one or two such properly conceived courses (perhaps one for the lower elementary level and another for the intermediate grades) might function as most efficient instruments for the field both in a communicative and innovative sense at a time when such efforts are badly needed. They believed that television is a particularly efficient medium for this purpose because of its immediacy. These new telecourses might thus influence not only the children but the teachers, the administrators of schools, and perhaps the parents as well.

The conferees received assurances of positive assistance for the development of at least one such telecourse from officials of the NCSCT and began to organize operations which would insure the fastest possible production of such a course.

They proposed that two smaller sub-groups be formed. One, of five or six members, would be responsible for most of the policy-making, planning, and actual writing. The second, and larger group, would serve a critiquing function for the first. They also suggested that the best technical personnel possible should be obtained to proceed with the project once the writing was concluded. The conferees hoped that through such cooperative efforts a suitable telecourse could be ready for use within the next two years and that this, in turn, would serve as a stimulus for other efforts.

Part III--ITV in Art Education

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.		USED BY OTHERS
ELEMENTARY COURSES								
ADVENTURES IN ART	WKNO	Memphis, Tenn.	4	30	20'	1/wk	R*	no
ADVENTURES IN ART	WKNO	Memphis, Tenn.	5	30	2o'	1/wk	R	no
ALL AROUND US	P.S**	Eugene, Ore.	1-3	10	15'	1/wk	R	no
ANIMALS IN ART	Mohawk-Hudson ETV	Schenectady, N.Y.	3-4	17	30'	1/wk	R	no
ART 2	WCVE	Richmond, Va.	2	18	15'	2/mo	R	no
ART 4	WCVE	Richmond, Va.	4	18	15'	2/mo	R	no
ART 5	WCVE	Richmond, Va.	5	18	15'	2/mo	R	no
ART: GRADE 1	KPEC	Tacoma, Wash.	1	36	15'	1/wk	U	no
ART: GRADE 2-3	KPEC	Tacoma, Wash.	2-3	35	15'	1/wk	U	no
ART: GRADE 4	KPEC	Tacoma, Wash.	4	34	20'	1/wk	U	no
ART: GRADE 5-6	KPEC	Tacoma, Wash.	5-6	32	20'	1/wk	U	no
ART 3-6	P.S.	Santa Ana, Calif.	3-6	16	20'	2/mo	R	no
ART 6	KCTS	Seattle, Wash.	6	35	30'	1/wk	R	no
ART 1-2	KOKH/KETA	Oklahoma City, Okla.	1-2	35	20'	1/wk	U	no
ART 3-4	KOKH/KETA	Oklahoma City, Okla.	3-4	35	20'	1/wk	U	no
ART 5-6	KOKH/KETA	Oklahoma City, Okla.	5-6	35	20'	1/wk	U	no
ART 1 (Discovering Art)	WOSU	Columbus, Ohio	1	37	15'	1/wk	R	yes
ART 2 (Enjoying Art)	WOSU	Columbus, Ohio	2	37	15'	1/wk	R	yes
ART 3 (Exploring Art)	WOSU	Columbus, Ohio	3	37	15'	1/wk	R	yes

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*Recorded or Unrecorded
**Public Schools

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.	USED BY OTHERS
ELEMENTARY COURSES (cont.)							
ART 4 (Growing in Art)	WOSU	Columbus, Ohio	4	37	15'	1/wk R	yes
ART 5 (Adventures in Art)	WOSU	Columbus, Ohio	5	37	15'	1/wk R	yes
ART 6 (Awareness in Art)	WOSU	Columbus, Ohio	6	37	15'	1/wk R	yes
ART: GRADE 6	WNED	Buffalo, N.Y.	6	28	20'	1/wk R	no
ART FOR GRADES 3-4	KUON	Lincoln, Nebr.	3-4	15	25'	1/wk R	no
ART FOR GRADES 5-6	KUON	Lincoln, Nebr.	5-6	15	25'	1/wk R	no
ART 4-6	WMSB	East Lansing, Mich.	4-6	34	30'	1/wk R	no
ART 1	KRET	Richardson, Texas	1	34	15'	1/wk R	no
ART 2	KRET	Richardson, Texas	2	34	15'	1/wk R	no
ART 3	KRET	Richardson, Texas	3	34	15'	1/wk R	no
ART 4	KRET	Richardson, Texas	4	34	15'	1/wk R	no
ART 5	KRET	Richardson, Texas	5	34	15'	1/wk R	no
ART 6	KRET	Richardson, Texas	6	34	15'	1/wk R	no
ART ABOUT US	KFME	Fargo, N.D.	1-3	30	20'	1/wk R	no
ART AND IMAGINATION	SCETV	Columbia, S.C.	4-6	30	30'	1/wk R	no
ART AND YOU	WSIU	Carbondale, Ill.	2-3	32	15'	1/wk R	no
ART AT YOUR FINGERTIPS	WENH	Durham, N.H.	4-6	31	15'	1/wk R	yes
ART COMES ALIVE	WETA	Washington, D.C.	2-3	15	15'	1/wk R	yes
ART FOR YOU 1	WMVS	Milwaukee, Wis.	1	24	15'	1/3wks R	no
ART FOR YOU 2	WMVS	Milwaukee, Wis.	2	24	15'	1/3wks R	no
ART FOR YOU 3	WMVS	Milwaukee, Wis.	3	24	15'	1/3wks R	no
ART FOR YOU 4	WMVS	Milwaukee, Wis.	4	24	20'	1/3wks R	no
ART FOR YOU 5	WMVS	Milwaukee, Wis.	5	24	20'	1/3wks R	no
ART FOR YOU 6	WMVS	Milwaukee, Wis.	6	24	20'	1/3wks R	no
ART IS EVERYWHERE	P.S.	Santa Ana, Calif.	3-4	18	20'	2/mo R	no
ART: HERE, THERE, AND EVERYWHERE	KDPS	Des Moines, Iowa	1	18	15'	2/mo R	yes

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.		USED BY OTHERS
ELEMENTARY COURSES (cont.)								
ART: HERE, THERE, AND EVERYWHERE	KDPS	Des Moines, Iowa	2	18	15'	2/mo	R	yes
ART: HERE, THERE, AND EVERYWHERE	KDPS	Des Moines, Iowa	3	18	15'	2/mo	R	yes
ART: HERE, THERE, AND EVERYWHERE 1-3	GPITL	Lincoln, Nebr.	1-3	24	15'	3/mo	R	yes
ART LABORATORY	KTPS	Tacoma, Wash.	5-6	37	20'	1/wk	U	no
THE ART LESSON	KCSD	Kansas City, Mo.	1-6		15'		U	no
ART: THINKING, FEELING, AND DOING	WUCT	Jacksonville, Fla.	3-5	36	25'	1/wk	U	no
ART: TO SEE, TO DO	KOET	Ogden, Utah	K-3	30	20'	1/wk	R	yes
ART TREASURES	WHRO	Norfolk, Va.	5	34	20'	1/wk	R	no
ART WORLDS	WETA	Washington, D.C.	4-6	15	20'	2/mo	R	no
ARTS AND CRAFTS	WDCN	Nashville, Tenn.	K-6	6	30'	2/mo	R	no
BUILDING BLOCKS OF ART	KWCS	Ogden, Utah	3-4	35	20'	1/wk	R	yes
BUILDING BLOCKS OF ART	KWCS	Ogden, Utah	5	37	20'	1/wk	R	yes
BUILDING BLOCKS OF ART	KWCS	Ogden, Utah	6	33	20'	1/wk	R	yes
COME AND SEE	P.S.	Santa Ana, Calif.	K-2	18	15'	2/mo	R	no
CONTEMPORARY CRAFTS	WHA	Madison, Wis.	4-6	30	20'	1/wk	R	no
DESIGNED FOR YOU	WMVS	Milwaukee, Wis.	4-6	32	15'	1/wk	R	no
DISCOVERING ART	P.S.	Santa Ana, Calif.	5-6	18	15'	2/mo	R	no
DOORWAYS TO ART	WVIZ	Cleveland, Ohio	4-5	16	15'	2/mo	R	no
DRAWINGS 1-3	KETA/ KQED	Norman, Okla.	1-3	60	20'	1/wk	U	no
DRAWINGS 4-6	KETA/ KQED	Norman, Okla.	4-6	60	20'	1/wk	U	no

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.	USED BY OTHERS
ELEMENTARY COURSES (cont.)							
DRAWING 1-3	KOKH/ KETA	Oklahoma City, Okla.	1-3	18	20'	2/mo U	no
ELEMENTARY ART: EYES ALERT 1-2	WUFT	Gainesville, Fla.	1-2	10	15'	1/3wks R	no
ELEMENTARY ART: EYES ALERT 3-4	WUFT	Gainesville, Fla.	3-4	10	30'	1/3wks R	no
ELEMENTARY ART: EYES ALERT 5-6	WUFT	Gainesville, Fla.	5-6	10	30'	1/3wks R	no
EXPLORING ART	KTPS	Tacoma, Wash.	3-4	37	20'	1/wk U	no
INTERMEDIATE ART 4-6	KRMA	Denver, Colo.	4-6	34	20'	1/wk R	no
INTERMEDIATE ART 5-6	KLRN	Austin, Texas	5-6	15	25'	2/mo R	no
KALEIDOSCOPE	WFME	Orlando, Fla.	1-6	80	20'	5/wk U	no
KEY TO THE CUPBOARD	WPSX	University Park, Pa.	3-4	11	30'	1/wk R	no
LET'S BE ARTISTS	P.S.	Portland, Oreg.	4-6	8	15'	1/wk R	yes
LET'S MAKE PUPPETS	WNYE	New York, N.Y.	3-6	15	20'	1/wk R	no
LET'S TALK ABOUT ART	WVIZ	Cleveland, Ohio	1-2	16	15'	2/mo R	no
LOOKING INTO ART	KCTS	Seattle, Wash.	4	34	30'	1/wk R	yes
PAINTING THROUGH THE AGES	P.S.	Eugene, Oreg.	5	10	15'	1/wk R	no
SEEING THROUGH ART	KTCS	Seattle, Wash.	5	34	30'	1/wk R	yes
TIME FOR ART	KFME	Fargo, N.D.	4-6	30	20'	1/wk R	no
YOUR ART IS YOU	KOET	Ogden, Utah	4-6	30	20'	1/wk R	yes

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.	USED BY OTHERS
SECONDARY COURSES							
ART 7-8	KETC	St. Louis, Mo.	7-8	16	30'	1/wk R	no
CREATIVE ART	Auburn Univ.	Auburn, Ala.	10-12	37	30'	1/wk R	no
LANGUAGE OF ART	P.S.	Santa Ana, Calif.	7	9	15'	2/mo R	no
PROFILES IN ART	WPSX	University Park, Pa.	9-12	16	30'	1/wk R	no
VISION AND ART	KVCR	San Bernardino, Calif.	5-8	15	30'	2/mo R	no
WORLD OF ART	P.S.	Santa Ana, Calif.	10	18	20'	1/wk R	no
IN-SERVICE TEACHER EDUCATION							
ARTS AND CRAFTS	WDCN	Nashville, Tenn.	In-S	6	30'	2/mo R	no
FORM AND IMAGINATION	WQED	Pittsburgh, Pa.	In-S	32	30'	1/wk R	no

Part 2

TELEVISION IN FOREIGN LANGUAGE EDUCATION

This report concerns the National Center for School and College Television's conference on television in foreign language education. The conference was conducted to assess television materials now being offered in foreign languages in an effort to stimulate the development of increasingly effective television materials for the nation's schools. The report is divided into three sections:

- Part I is a status report of foreign language telecourses being offered in the United States during the 1966-67 school year.

- Part II is an overview of the discussion among the language and television authorities who participated in the conference.

- Part III is a tabular breakdown of the information gathered. The materials listed in this section form the basis for Part I. Lessons from most of the telecourses listed here were viewed during the conference.

The conferees viewed sample lessons from telecourses, reviewed print materials (teacher's manuals and student work materials), and, during the final session, considered the state of television in foreign language education.

The authorities who joined NCSCT staff members for the conference are Leo Bernardo, director of the New York City Bureau of Foreign Language; Emma Birkmeier of the University of Minnesota; Guy Capelle of the University of Michigan; S.P. Corder of the University of Edinburg in Scotland; Clemens Hallman of Indiana University; Victor E. Hanzeli of the University of Washington; Elton Hocking of Purdue University; Bordan Mace of the D.C. Heath Corporation; Joseph Michel of the University of Texas; George Smith of the University of California at Santa Barbara; and Frances Taylor of the Indianapolis Public Schools.

Part I--THE STATUS OF TELEVISION IN FOREIGN LANGUAGE EDUCATION

To determine the extent to which television is used in foreign language education, NCSCT sent questionnaires to 116 educational television stations, several selected closed-circuit systems, and other institutions and organizations known to be producing or distributing television materials. Information resulting from these questionnaires is summarized in this section of this report.

Several single programs designed as supplementary or enrichment pieces for school children or teachers were found in use, but are not here measured. Neither are programs for adult audiences here measured. Only full courses designed for elementary and secondary education or for in-service teacher education are considered in this status report.

Ninety-four foreign language telecourses were found in use during the 1966-67 school year. Eighty-six were designed for students in elementary and secondary grades. Eight series were designed for in-service teacher education. Of the 94 courses, only 15 were *not* recorded for reuse.

LANGUAGE EMPHASIS

Survey results indicated that television is being used to aid instruction in three foreign languages; Spanish, French and German. Sixty-nine courses (73 percent of the total) were in Spanish. Only nine Spanish courses were *not* recorded. Twenty French courses were reported in use. Six were *not* recorded. The three German courses in use were recorded. Two of the in-service teacher education courses emphasized the general problems connected with foreign language education.

FREQUENCY OF TRANSMISSION

As indicated on the chart below, there is considerable variation in the way television is used in foreign language education. Sixteen courses were designed to be transmitted at the rate of one lesson per week. Six courses, all in Spanish, Levels I and II, were offered at a rate of five lessons per week. The greatest number of courses was designed to be transmitted at the rate of two lessons per week (a total of 26), and at the rate of three lessons per week (26). Eleven courses were offered on a four-lesson per week schedule. Those using in-service materials did not specify transmission schedules.

Of the 86 courses designed for students in the elementary and secondary grades, only four (about five percent) were intended for use during a single semester. All of the eight in-service courses were designed for single semester use.

LEVEL ANALYSIS

As indicated in Part III (page 98), the survey revealed the beginning or introductory level of foreign language instruction (Level I in this report) takes place at various grade levels. Therefore, foreign language materials considered here are measured by levels rather than by the traditional elementary-secondary breakdown.

LEVEL I

An analysis of the survey revealed 35 foreign language courses (37 percent of the total) in use at the beginning or introductory level of instruction. Level I Spanish courses totaled 28; four were *not* recorded. Three of the six French courses reported in use at this level were *not* recorded. The only Level I German course reported was recorded. Two of the Spanish courses were designed for use during a single semester. All other Level I courses were transmitted for a complete school year.

(Elementary and Secondary Grade Courses)

		LESSON TRANSMISSION RATE					OTHER	TOTAL NO. OF COURSES PER LEVEL
LANGUAGE	LEVEL	1/wk	2/wk	3/wk	4/wk	5/wk		
SPANISH	I	4	6	9	5	4	0	28
	II	4	7	6	4	2	1	24
	III	2	5	3	1	0	0	11
	IV	1	2	0	0	0	0	3
FRENCH	I	2	1	2	1	0	0	6
	II	1	2	2	0	0	0	5
	III	1	1	1	0	0	0	3
	IV	1	1	0	0	0	0	2
	V	0	1	0	0	0	0	1
GERMAN	I	0	0	1	0	0	0	1
	II	0	0	1	0	0	0	1
	III	0	0	1	0	0	0	1
TOTAL		16	26	26	11	6	1	86

LEVEL II

Twenty-four of the 30 courses reported in Level II (32 percent of the total number of courses) concerned Spanish courses. Four were *not* recorded. There were five French courses (two *not* recorded) and one recorded German course. One Spanish course was offered at a rate of two lessons per month.

LEVEL III

Fifteen courses (16 percent) were found in use at Level III. The Spanish courses were recorded as was the one German course. One of the three French courses at this level was *not* recorded. All of the Level III courses were designed for use during the entire school year.

LEVEL IV

Five courses (five percent of the total) were in use in Spanish and French at this level. One of the three Spanish courses was *not* recorded. One French course contained 16 lessons and was designed to be offered at a rate of one lesson per week during a single semester. The other four courses were intended for use throughout the school year.

LEVEL V

Of the courses reported, only one recorded French course was in use at this level. As indicated in Part III, this course was designed for students in the eighth grade.

In-Service Teacher Education

All eight in-service courses (nine percent of the total) were recorded and designed for use during a single semester. It is interesting to note (Part III), that two courses are non-specific as to language, three are designed for Spanish teachers, and the three in-service French courses are not only specific as to language but are concerned with only one level of French instruction.

PART II--AN OVERVIEW

A group of prominent language specialists and educational broadcasters met with staff members of the National Center for School and College Television to judge the adequacy of television material foreign language now in use across the nation and to begin the development of guidelines for the production of future television materials.

During the conference they viewed portions of some 90 lessons that represented most of what was transmitted to schools during the 1966-1967 academic year. They were able to review enough of each lesson to permit preliminary judgments. Later, a sub-group of the original panel made a study in depth of the outstanding lessons.

Immediately evident were two overriding factors: the unprecedented and skyrocketing popularity of "FLES" (Foreign Language in the Elementary School), and the necessarily improvised nature of the television programs which were devised to substitute for the non-existent specialist teacher. The acceptance of FLES, added to the flexibility of schedules in the elementary school, explain why the great majority of the materials assessed were designed for the elementary grades.

Here was a unique situation: a subject new to the elementary curriculum was being presented through a new medium by inexperienced television teachers who had to devise new materials, and who could only hope that their broadcasts would be properly followed up by classroom teachers who knew little or no foreign language. There have been hundreds of such television presentations in the last 15 years. Obviously, this upsurge of television instruction was a generous response by our schools to a sudden, almost overwhelming public demand. No less obviously, it was often a makeshift response, conceived in enthusiasm and dedicated to the proposition that all children can learn a foreign language by merely tuning in television.

There were brillant exceptions to the rule, notably "Parlons Francais," with its budget in seven figures, its highly professional direction (both technical and pedagogical), its elaborate services and aids for the classroom, and its gifted teacher on the screen. Other programs ran the gamut from very good to very poor. Of the latter, the best that can be said is that they attempted too much too soon.

THE POTENTIAL OF FLES BY TV

The few outstanding series are proof of what is possible by capitalizing on the unique qualities of television, combined with the equally unique ability of the young child to "absorb" a strange language -- especially its pronunciation and melody -- and to accept the cultural patterns of children in other lands. Advertising "commercials" have cleverly exploited the special capabilities of both the medium and the child, but most of the foreign language lessons have not. For years we have said that films and videotapes made abroad can break down the walls of the school by bringing the foreign country, language and children into the classroom. But, as one conference participant commented: "Most of these programs use the camera to look through the keyhole into the classroom next door. We see only another teacher and another blackboard." Here this medium is not "the message" but only the mirror image of the American classroom.

There were, however, several examples of exploiting the capabilities peculiar to the medium; for example, conversations or dramatizations by native children in realistic situations, followed by drills with flashbacks to parts of the skit. When these were well planned and capably performed, the meaning came clear, even though the viewers might not understand a single word, as such. "The thing that TV can do," insisted one of our European conferees, "is to present *visual* material, and this has principally to do with the teaching of meaning." This is, in turn, the answer to every foreign language teacher's problem of providing meaning while avoiding the use of English. It is also, incidentally, a good illustration of McLuhan's "The medium is the message," for the message would still be clear if the audio were turned off.

In addition to providing the verbal meaning, television is uniquely capable of conveying the contextual or socio-cultural meaning. For example, one program took place in a French classroom, with activities and furnishings unlike our own; another showed children greeting each other with a handshake and starting off to school with knapsacks of books. There were various examples of foreign life and interactions between children and adults: at meals, in the park, in shops. We learned, without being told, that French bread does not look like our bread, that European children stand when given permission to speak in class or when an adult enters the room, that homework is dutifully written in a prescribed notebook and countersigned by a parent.

The foreign language becomes more than a Morse code for English "equivalents" when all these insights give it depth and context. When interwoven with the "silent language" of gesture, facial expression, body stance and movement, such insights become the texture of another way of life and thought and feeling, of which the spoken language is the appropriate expression. And only television or film can combine all these and thus provide a unique experience. It would seem that, of all classroom subjects, foreign language can benefit most from television and that our young children, already fascinated by the medium, would profit greatly.

TV IN THE SECONDARY SCHOOL

At this level the situation appears very different: foreign languages have an established place in the curriculum; the teaching is done by specialists; there is an abundance of printed and tape-recorded learning materials. However, the old order is now disturbed by a reform movement, parallel to the "new math" and the "new science."

Generally known as *New Key* or *audiolingual teaching*, with early emphasis on the oral-aural skills, this ferment would seem conducive to bold experimentation with television, but this has not developed. Only a few courses have been produced for foreign language teaching in the high school, and -- perhaps inevitably -- they have generally been expositions or extensions of the textbook. As with most FLES programs, we see the teacher expounding and drilling "the lesson," meaning grammar and vocabulary. In general, the inherent capabilities of the medium are not used.

In some respects, the high school programs are superior to those for FLES: the technical production is usually less amateurish, for it is provided by a large school system; the teacher's confidence and poise are evident, for essentially he is repeating what he has always done in his classroom. On the whole, however, the TV programs for the secondary school reveal the same weaknesses that one finds in the FLES programs.

THE CONSENSUS: ENDS AND MEANS

The conference agreed upon several major assumptions, and upon the means of fulfilling certain needs which are all too evident. There was agreement that, despite the generally poor quality of the programs so far, foreign language instruction by television is here to stay, and that it will be increasingly needed, especially in the elementary school; that it can make a unique contribution, at all academic levels, by bringing the foreign country, culture and speakers into the classroom; that its technical resources (flashbacks, split screen, animation, graphics and other devices) are otherwise unavailable in the classroom; and that all these resources provide motivation and depth of learning for the student and, for the local teacher a broadened base for intensive, systematic follow-up activities.

On the negative side it was agreed that television cannot provide total teaching and that the television teacher should indulge only minimally in language drills, which serve primarily as suggestions for the local teacher; that the local non-specialist teacher will fail unless provided with recorded drills, filmstrips, "props," and -- first of all -- an outline guide of the course; that there has been a regrettable lack of teamwork, or even of communication, between television producers and the local teachers and administrators; finally (and ironically) that there has been, in the name of economy, a tragic waste of money and time in the development of scores of locally-produced courses, all of them starting from scratch, starving for funds and facilities and expert personnel, duplicating each other's mistakes, and eventually achieving a mediocre product which discredits the medium itself and the subject which it purports to teach. The stern fact is that good school television, like the automobile and other high-cost, high-quality products, is feasible only with concentrated expert production and mass consumption.

In order to overcome these problems, the conferees agreed that there should be an international clearing house to distribute information and materials, especially sequences filmed abroad, for such productions are obviously beyond the resources of most school systems. Such an organization would also provide information and advice -- perhaps even scripts -- for local production intended to complement the purchased materials (related film and print materials). A further service might be advisory: expert information on how to revise an old series, or to extend it to higher levels. Basic to all this would be an exchange of information on who is doing what, or plans to do it, in order to prevent wasteful duplication. A summer workshop would bring together the technical and subject-matter people involved in further production.

For the long run -- since school television will increasingly be needed -- there is need of a genuine research and development center with facilities for experimental production. Advanced courses in language and literature could benefit greatly from foreign-made materials, but these must be planned carefully and then field tested. There is also the great potential of computer-assisted instruction, the integration of professional cinema and recorded "readings," and other developments now on drawing boards. The future of school televisionand of foreign language instruction is full of promise, but it must not be allowed to "just grow," like Topsy. If we can learn from experience, we know that concerted planning is essential.

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE	NO. OF LESS.	LESSON LENGTH (MIN.)	FREQUEN. OF BDCT.	
Spanish - Level I							
Adelante Amigos	MPATI	Lafayette, Ind.	7-9	128	20	4/2k	Y
Aqui Se Habla Espanol	PS	Anaheim, Calif.	4	98	15	3/wk	Y
Charlemos	PS	Detroit, Mich.	2-4	42	20	2/wk	Y
Conversational Spanish	SWIETVC	Evansville, Ind.	3	173	15	5/wk	Y
El Camino Espanol	PS	Santa Ana, Calif.	5	97	15	3/wk	Y
Elementary Spanish	MCTI		3	66	15	2/wk	Y
El Espanol Al Dia-I	PS	Indianapolis, Ind.	9-10	151	15	5/wk	Y
Foreign Language For You	PS	Milwaukee, Wisc.	5	48	15	3/wk	S
Hablo Espanol	PS	Denver, Colo.	5	110	15	3/wk	Y
Hablemos Espanol	KNME	Albuquerque, N.M.	5-6	72	30	2/wk	Y
Hablemos Espanol	Ky. ETV	Louisville, Ky.	3	72	15	2/wk	Y
La Clase de Espanol	KRET	Richardson, Tex.	3	90	10	3/wk	Y
Of Course We Speak Spanish	PS	Los Angeles, Calif.	6	60	15	2/wk	Y
Primary Spanish	KLRN	Austin, Texas	1-2	116	15	4/wk	Y
Que Tal, Amigos	MPATI	Lafayette, Ind.	4-6	128	20	4/wk	Y
Saludos Amigos	KQED	San Fran., Calif.	4-6	34	15	1/wk	Y
Se Habla Espanol	KCTS	Seattle, Wash.	3	65	15	2/wk	Y
Spanish	PS	Rochelle, Ill.	3-8	54	20	5/wk	S
Spanish-I	KERA	Dallas, Texas	3	66	15	2/wk	Y
Spanish-I	PS	Ottumwa, Iowa	5	150	15	5/wk	Y
Spanish-I	WFSU	Tallahassee, Fla.	4	36	15	1/wk	Y
Spanish-I	PS	East Lansing, Mich.	4	128	15	4/wk	Y
Spanish-Grade 3	KCSD	Kansas City, Mo.	3	90	15	3/wk	Y
Spanish-Level I	PS	Lafayette, Calif.	6	116	15	4/wk	Y
Spanish - 7	CHSD	Franklin Sq., N.Y.	7	90	20	3/wk	Y
Una Aventura Espanola-I	PS	Pasadena, Calif.	4-5	90	12	3/wk	Y

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE	NO. OF LESS.	LESSON LENGTH (MIN.)	FREQUEN. OF BDCT.	
Spanish - Level I (cont.)							
Viva Nuestra Amistad	Ga. ETV	Atlanta, Ga.	3	36	15	1/wk	Y
Ya Hablamos Espanol-I	KTCA	St. Paul, Minn.	4	96	15	3/wk	Y
Spanish - Level II							
Active Spanish	KLRN	Austin, Texas	3	116	15	4/wk	Y
Elementary Spanish	MCTI	East Lansing, Mich.	4	66	15	2/wk	Y
El Espanol Al Dia-II	PS	Indianapolis, Ind.	10-11	151	15	5/wk	Y
Fiesta-II	Ga. ETV	Atlanta, Ga.	4	33	15	1/wk	Y
Foreign Language For You	PS	Milwaukee, Wisc.	6	48	15	3/wk	S
Hablemos Espanol	MPATI	Lafayette, Ind.	4-6	64	20	2/wk	Y
Hablemos Espanol	PS	Anaheim, Calif.	5	98	15	3/wk	Y
Hablemos Espanol-II	Ky. ETV	Louisville, Ky.	4	68	15	2/wk	Y
Hablo Mas Espanol	PS	Denver, Colo.	6	74	15	2/wk	Y
Hola Ninos	KQED	San Francisco,Cal.	5-7	32	15	1/wk	Y
La Clase de Espanol	RISD	Richardson, Texas	4-6	68	15	2/wk	Y
La Puerta Abierta al Espanol	PS	Santa Ana, Calif.	6	105	15	3/wk	Y
Latina America Canta y Baila	KTPS	Tacoma, Wash.	7-8	30	20	1/wk	Y
Se Habla Mas Espanol	KCTS	Seattle, Wash.	4	65	15	2/wk	Y
Spanish - II	KERA	Dallas, Texas	4	66	15	2/wk	Y
Spanish - II	PS	Ottumwa, Iowa	6	150	15	5/wk	Y
Spanish - II	WFSU	Tallahassee, Fla.	5	36	15	1/wk	Y
Spanish - II	PS	East Lansing, Mich.	5	128	15	4/wk	Y
Spanish - Grade 4	KCSD	Kansas City, Mo.	4	86	15	3/wk	Y
Spanish - 8	CHSD	Franklin Sq., N.Y.	8	20	20	2/mo.	Y
Spanish-Level II	PS	Lafayette, Calif.	7	115	15	4/wk	Y

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE	NO. OF LESS.	LESSON LENGTH (MIN.)	FREQUEN. OF BDCT.	
Spanish - Level II (cont.)							
Spanish Today	KLRN	Austin, Texas	4-6	116	15	4/wk	Y
Una Aventura Espanola-II	PS	Pasadena, Calif.	5-6	90	15	3/wk	Y
Ya Hablamos Espanol - II	KTCH	St. Paul, Minn.	5	96	15	3/wk	Y
Spanish - Level III							
Aqui Se Habla el Espanol	PS	Santa Ana, Calif.	7	70	15	2/wk	Y
Digalo en Espanol	PS	Anaheim, Calif.	6	98	15	3/wk	Y
Fiesta - III	Ga. ETV	Atlanta, Ga.	5	33	15	1/wk	Y
Paso a Paso	MPATI	Lafayette, Ind.	5-6	64	20	2/wk	Y
Se Habla y Se Lee Espanol	KCTS	Seattle, Wash.	5	65	15	2/wk	Y
Spanish - III	KERA	Dallas, Texas	5	66	15	2/wk	Y
Spanish - III	WFSU	Tallahassee, Fla.	6	36	15	1/wk	Y
Spanish - III	PS	East Lansing, Mich.	6	61	15	2/wk	Y
Spanish - Grade 5	KCSD	Kansas City, Mo.	5	91	15	3/wk	Y
Spanish-Level III	PS	Lafayette, Calif.	8	115	15	4/wk	Y
Ya Hablamos Espanol - III	KTCA	St. Paul, Minn.	6	96	15	3/wk	Y
Spanish - Level IV							
El Mundo de Espanol	PS	Indianapolis, Ind.	8	70	15	2/wk	Y
Fiesta - IV	Ga. ETV	Atlanta, Ga.	6	33	15	1/wk	Y
Spanish - Grade 6	KCSD	Kansas City, Mo.	6	67	15	2/wk	Y
French - Level I							
Bonjour les Enfants	MPATI	Lafayette, Ind.	4-6	128	20	4/wk	Y
French I	PS	Philadelphia, Pa.	4	90	15	3/wk	Y
Fun with French	PS	Rapid City, S.D.	5	100	15	3/wk	Y

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE	NO. OF LESS.	LESSON LENGTH (MIN.)	FREQUEN. OF BDCT.	
French - Level I (cont.)							
Let's Speak French	PS	Baltimore, Md.	6	30	15	1/wk	Y
Parlais Francais	PS	Toledo, Ohio	4	26	15	1/2k	Y
Parlons Francais - I	de Roch-emont Co.	New York, N.Y.	4	60	15	2/wk	Y
French - Level II							
En Avant	MPATI	Lafayette, Ind.	4-6	64	20	2/wk	Y
French II	PS	Philadelphia, Pa.	5	90	15	3/wk	Y
Fun with French	PS	Rapid City, S.D.	6	100	15	3/wk	Y
J'apprends le Francais	PS	Toledo, Ohio	5	33	15	1/wk	Y
Parlons Francais - II	deRoche-mont Co.	New York, N.Y.	5	60	15	2/wk	Y
French - Level III							
Causons et Lisons	PS	Toledo, Ohio	6	33	15	1/wk	Y
French III	PS	Philadelphia, Pa.	6	90	15	3/wk	Y
Parlons Francais - III	deRoche-mont Co.	New York, New York	5	60	15	2/wk	Y
French - Level IV							
1ci la France	McGraw-Hill Films	Illinois	9-12	16	20	1/wk	S
Qui Parle Francais	PS	Toledo, Ohio	7	51	15	2/wk	Y

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE	NO. OF LESS.	LESSON LENGTH (MIN.)	FREQUEN. OF BDCT.	
French - Level V							
Moi, je Parle Francais	PS	Toledo, Ohio	8	51	15	2/wk	Y
German - Level I							
Komm, Lach, und Lerne	KTCA	Minneapolis, Minn.	4	104	15	3/wk	Y
German - Level II							
Hand in Hand ins Kinderland	KTCA	Minneapolis, Minn.	5	104	15	3/wk	Y
German - Level III							
Auf Deutsch Bittel	KTCA	Minneapolis, Minn.	6	104	15	3/wk	Y
In-Service							
Challenges in Foreign Language Teaching	WYNE	Brooklyn, N.Y.	In-S	14	30		
Parlons Francais-I	deRochemont Co.	New York, N.Y.	In-S	15	15		
Parlons Francais-II	deRochemont Co.	New York, N.Y.	In-S	15	15		
Parlons Francais-III	deRochemont Co.	New York, N.Y.	In-S	11	30		
Spanish In-Service	KLRN	Austin, Texas	In-S				

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE	NO. OF LESS.	LESSON LENGTH (MIN.)	FREQUEN. OF BDCT.
In-Service (cont.)						
Teaching Modern Foreign Languages	DPI	Albany, N.Y.	In-S	16	30	
Teacher-to-Teacher Spanish	Ga. ETV	Atlanta, Ga.	In-S	21	30	
Una Aventura Espanola	deRoche-mont Co.	New York, N.Y.	In-S	12	15	

Part 3

TELEVISION IN HEALTH AND PHYSICAL EDUCATION

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TELEVISION IN HEALTH AND PHYSICAL EDUCATION

This report concerns the National Center for School and College Television's conference on television in health and physical education. The conference was conducted to assess television materials now being offered in health and physical education in an effort to stimulate the development of increasingly effective television materials. The report is divided into three sections:

* Part I is a status report of health and physical education telecourses being offered in the United States.

* Part II is an overview of the discussion among the health and physical education and television authorities who participated in the conference.

* Part III is a tabular breakdown of the information gathered. The materials listed in this section form the basis for Part I. Lessons from most of the telecourses listed here were viewed during the conference.

The conference participants reviewed print materials (for the most part Teacher's Manuals which accompany television materials), viewed sample lessons from the telecourses, and, during the final session, considered the state of television in health and physical education.

The nine authorities who assessed television materials designed for elementary and secondary grade levels are Anita Aldrich of Indiana University; William Carlyon of the American Medical Association; Michael E. Flanagan, State Supervisor of Physical Education; Lewis A. Hess of The Ohio State University; Chalmer G. Hixson of The Ohio State University; Robert Kaplan of the American Medical Association; Edward Mileff of the American Association for Health, Physical Education and Recreation; Lawrence Rarick of the University of Wisconsin; and Jean Young of the Pontiac, Michigan, public schools.

The sixteen authorities who assessed television materials designed for higher education are Loren Akers of the University of Illinois; Fay Biles of Kent State University; William Bock of Ball State University; William Brennan of Indiana University; William Carlyon of the American Medical Association; Robert Goldberg of Illinois Teachers College-Chicago North; Chalmer G. Hixson of The Ohio State University; Robert Kaplan of the American Medical Association; John R. LeFevre of Southern Illinois University; Henry Mariotti of Edinboro State College; Edward Mileff of the American Association for Health, Physical Education and Recreation; Freda Phillips of Ohio University; Jack Richardson of Eastern Illinois University; Charles Stamps of Illinois Teachers College-Chicago North; C. Harold Veenker of Purdue University; and Ray E. Wolf of Purdue University.

Part I--The Status of TV in Health and Physical Education

For its conference, NCSCT sent questionnaires to all ETV stations and state ETV networks, as well as several closed-circuit facilities.

Fifty-five different television courses were found in use at the elementary, secondary, and college levels.

ELEMENTARY GRADE LEVEL

GRADE EMPHASIS Of the 55 telecourses, 58 percent (33 courses) was designed for use at the elementary grade level. Sixteen were intended for the primary grades (K-3), 16 were designed for the intermediate grades (4-6), one was intended for use by grades 1-6.

FREQUENCY OF TRANSMISSION Of the 33 telecourses, 64 percent was designed for use throughout a full academic year and 36 percent was intended for use for only one semester. Twenty-nine of the 33 telecourses were designed to be transmitted at a rate of one lesson each week; two telecourses, at a rate of two lessons each week; one telecourse, at a rate of one lesson each month; and another, at a rate of two lessons each month.

RECORDED OR UNRECORDED Thirty telecourses (91 percent) were recorded and available for later use; only three telecourses were not recorded.

USED BY OTHERS Only 36 percent (12 telecourses) of the 33 telecourses was used by stations other than the producing station. Sixty-four percent (21 telecourses) was used only by the producing station.

SECONDARY GRADE LEVEL

GRADE EMPHASIS Only seven of the 55 telecourses (nine percent) were intended for grades seven through 12. Of the seven telecourses, just over half (four courses) were designed for use throughout a full academic year; three courses were intended to be used for one semester.

FREQUENCY OF TRANSMISSION Five of the telecourses were to be transmitted at a rate of one lesson each week; one, at a rate of one lesson every two weeks; and another, at a rate of one lesson each month.

RECORDED OR UNRECORDED Only two of the seven telecourses were recorded and available for future replay.

USED BY OTHERS Only one of the seven telecourses was used by a station other than the producing station.

COLLEGE LEVEL

GRADE EMPHASIS Thirty-three percent of the telecourses (18 courses) was for the college level.

FREQUENCY OF TRANSMISSION Of the eighteen courses, *all* were designed to be used in one semester. Eight of the telecourses had a transmission rate of one lesson each week, and ten had a rate of two lessons each week.

RECORDED OR UNRECORDED Sixteen of the 18 telecourses (89 percent) were recorded and available for later use.

USED BY OTHERS *None* of the college level telecourses were used beyond the production point.

Part II--An Overview

Prominent authorities in health and physical education and specialists in instructional television participated in two recent conferences conducted by the National Center for School and College Television. The conferees studied the status of school television in present day health and physical education and constructed some general guidelines for future production and utilization of television materials in the two areas.

Attached to the second conference was a special meeting of health educators from colleges and universities in the Midwest which conduct a "general education" type of health education course. As a result of the high degree of "sameness" in college television materials, this special group explored the potential of a coordinated project to produce television resources for collegiate health instruction which would be available for interinstitutional use.

The participants viewed materials produced for the schools and colleges in 1965-66. Adequate time for viewing, analysis and discussion was provided so that valid group judgments were reached.

OBSERVATIONS

None of the conferees had anticipated an extensive use of television in health and physical education. They were, therefore, impressed by the obvious commitment of talent, resources and time to what represented a major effort by specific schools and colleges to meet perceived needs through television. Each television course had been developed in its own locale with little or no exchange of information among the professional groups in health and physical education.

Most of the elementary school television courses assessed were designed to cover several adjacent grade levels: that is, one course would be designed for grades one, two and three, while another course was designed for grades four, five and six. This seemed to encourage groupings of students and repetition of content undesirable for effective learning.

The elementary school materials were all designed to fit the graded school's organizational pattern. None were available for the ungraded school or for the maturational placement of children in health and physical education.

Men and women were featured as studio teachers, thus providing an opportunity for elementary school children to identify with male or female figures.

While there was general agreement that the materials viewed would "upgrade" many ongoing programs, television is perpetuating traditional concepts of method and content. The bulk of the televised lessons were didactic in approach with no provisions for student exploration, discovery or creativity. In the same way, lessons featured the traditional content of skill and activity.

The materials did not utilize the medium; television usually served as a carrier to transport the teacher. Talk crowded the lessons. There were too few visuals, film clips and demonstrations. Neutral backgrounds, poor camera angles, and unsuitable clothing for teacher and demonstrators detracted from the productions.

Too-hurried a pace combined with too much content decreased effective learning and increased problems of recall.

Many of the television lessons were directed at several groups simultaneously: the viewing classroom teachers, the students being taught in the studio, and the viewing students in the classrooms. It was the opinion of the conferees that such ambivalence of purpose was confusing especially for classroom students whose roles would often change abruptly from listening-in on their teachers' in-service education, to the vicarious experience of observing other children being taught in the studio, to the central role of being taught by the studio teacher.

Of particular note was the lack of television materials for health and physical education in secondary schools, and the very limited quantity designed for the adjacent grades in junior high schools. Use of television in the upper grades may be prevented by the ready availability of secondary school teachers possessing expertise in these areas, the limitations of the traditional purposes of activity and "perspiration," and the common tendency of the public to focus its attention to boys' interscholastic athletics while ignoring the instructional program for all students.

The sameness of content and basic approach in the lessons for collegiate health instruction was striking. With very minor changes, most of the materials could have been used in any of the other health courses represented. The duplication of resources, talent and time in the production of the same materials was most obvious. What represented a major effort by each of a number of institutions had produced a quantity of similar television lessons, only a few of which could be labeled anything but ordinary.

CONCLUSIONS

While the conferees held mixed reactions to the materials viewed and while some had reservations concerning any use of television in physical education, there was consensus that well designed television materials could have a significant impact. Such materials could

(1) provide a point of entry for health and physical education into the established curriculum of a school or college;

(2) provide both resource and in-service education for the already overburdened elementary school classroom teachers; and

(3) provide a means of reducing the cultural lag between new concepts and their assimilation into actual educational practice.

Traditionally physical education has centered on skill and exercise--students engaged in vigorous activity. The profession is busily identifying other concepts that should be included with skill and exercise in physical education. These include a wide range of visual presentations to expand the sensory-perceptual experiences essential to full development; immediate participation in vigorous activity and motivation to extend such activities into future adult life; effeciency of movement; instruction in safety of movement; the development of an appreciation of movement; and the development of an adequate self-concept. These concepts lend themselves to television treatment.

In health education the same linear dimensions in learning are sought as in physical education and television can assist in the teaching-learning of health practices, health knowledge, and attitudes about health problems in society. At the college level television can participate in a more meaningful and sophisticated dialog between science and health behavior.

The traditional approach that all students in health and physical education are to be performers is no longer adequate. Students must become performers and consumers to live the fullest lives. Knowledge and appreciations which provide powers of discrimination and appreciation for sports and the health issues of contemporary society are essential.

POTENTIAL ROLES FOR TELEVISION

Unless some drastic change in conditions occur which no conferee would predict, the supply of qualified specialists in health and physical education, especially at the elementary school level, will meet but a fraction of the need. Television, then, can serve as a "specialist" in instruction for numerous students now enrolled who would otherwise be "abandoned" as recruitment and preparation of needed specialists are expanded. The impact of television's use in this way could result in immediate improvement in instruction.

In established programs of health and physical education, television could initiate new activities and materials as well as enrich the traditional ones. Intellectual content, models of motor performance, unlimited visual experiences and an involvement with the studio teacher's methodology would provide a continuous in-service education for the classroom teacher. In the multi-section courses of a college or university and the multi-schools of a school system television provides an assured core of material to be taught.

Television materials, teacher guides and workshops can be especially designed as in-service education to accompany the regular in-class television lessons for students. Certainly, the administrative problems of all in-service education would be present in these activities. Definite commitments for at least a full semester of participation by the teacher seems to be required if television is to be effective.

Television could provide an effective means of sharing concepts, models and methods throughout the profession. One participant pointed to television as "the great unveiler" in any effort to improve instruction.

In pre-service education the colleges and universities could utilize, in similar ways, materials specifically designed for the prospective teachers. In addition, television materials described above could enrich the courses of teacher preparation.

RECOMMENDED GUIDELINES

The conferees agreed that a minimum of one television lesson per week is required if television is to be a major factor in the course being taught. The most satisfactory lesson length seems to be 14-15 minutes in primary grades, 15-20 minutes in upper elementary, 20-30 minutes in secondary schools, and 20-45 minutes in higher education. Realizing that effective instruction in health and physical education cannot always be packaged in the same time module, the conferees recommended that time be determined by the instructional task at hand.

It was the consensus that television lessons should be designed for a particular viewing audience. In-service education for the teacher should not monopolize the in-class time of students; in-class lessons should be designed for students with in-service education occurring as a by-product.

The most important component of the television lesson is the studio teacher. Thoughtful selection is necessary. While the conferees agreed that certain television teachers were more effective than others, they found it difficult to list the qualifications unique for success. However, they did say that successful television teachers should be expert in the appropriate subject, should "involve" the viewer, should be vital and enthusiastic, should be able to make *visual* presentation and explanations, and should be able to analyze and explain movement.

The use of students in studio demonstrations was highly recommended. Demonstrations should include highly skilled models as well as readily attainable ones for the viewing students.

Too little is known to determine the desirability of using different students in the preparation of each lesson as opposed to using the same students for all lessons. No consensus could be reached here.

Emphasis should be given to each of the important ideas in a lesson, and time must be provided to refine those ideas. The density of content and the pacing of presentation should not overwhelm the viewers who need some opportunity to assimilate ideas and information during the telecast.

The widest possible use of audio-visuals is an important component of each lesson. The medium lends itself to presenting many materials which would be impossible in the traditional presentation in a gymnasium or classroom. New materials demand a more sophisticated use of television than was viewed at the conference.

The conferees pointed out one additional component of a television lesson: a summary and/or evaluation. It was emphasized that it need not, in fact *ought not,* be verbal in nature.

Opportunity for follow-up activities for each television lesson is recommended. Current practice usually provides one additional period each week following the television lesson. Of course the nature of the television lesson and its content will be factors here, as well as the availability of suitable space and facilities. The most desirable plan presented provided for follow-up activities as soon as possible after the television lesson.

The conferees suggest that the problem of the viewing space for physical education classes needs study and research. It seemed logical to view those lessons involving participation in gymnasiums and similar spaces. Other types of lessons, health education for example, could be viewed in a classroom. Of course, the traditional controls of environmental conditions conducive to learning should be provided.

Television lessons should be as interesting and stimulating as possible. Students can tune-out television mentally just as they can classroom teachers. Dull, drab lessons which merely transfer the lecturer from podium to screen are not adequate. Here again the medium lends itself to interesting and unusual presentations.

Television lessons and courses should have a minimum level of adequacy built into them. The receiving teachers do not bring similar amounts of preparation skill and experience to the lessons. Experience has shown that some do not read the teacher's manuals or follow up the television lessons. Therefore, the television materials must provide at least minimum levels of quantity and quality of instruction.

The conferees also recommended a planned program of in-service orientation and preparation to assist the teachers with the problems of reception and utilization of television. This should parallel and be related to the course being used by the teacher. The studio teacher should participate in these activities where possible.

The planning process for televised instruction should be lengthened and involve resources outside the institution and locale producing the materials. Pilot programs should be produced, used and evaluated. This should insure quality control and an increasingly effective use of the television medium in health and physical education.

THE FUTURE

Suggestions for future directions as television is developed for these fields were discussed. Televised instruction should develop as an integral part of the school program and not as an addition which must necessarily usurp time assigned to other subjects. It should be integrated with other subject matter areas of the curriculum as well.

Future programs in health and physical education should be developed for each grade level and be progressive from grade to grade. Each course should provide approximately spaced in-service lessons for the teachers.

Innovative approaches and content are demanded by the future. Series on the *hows* and *whys* of Physical Education, and on contemporary intellectual content are needed since many certified teachers active in schools and colleges have not taken such materials from their own pre-service preparation.

A series on Dance which could be utilized by teachers much as the Durlacher Records have been used would be an invaluable addition.

The future should bring an extensive sharing of resources throughout the professional groups. Materials will be developed for wide distribution which can be used to meet the varying needs from school to school and community to community. This will advance as the basic skills, knowledges and attitudes are identified for each grade level.

The future demands coordinated and cooperative efforts by the Curriculum Commission, Design Commission and other planning groups of the American Association for Health, Physical Education and Recreation. New concepts of curricula and pedagogy should appear in television form as well as printed form for wide dissemination.

In conclusion, the conferees were confronted time and again with the lack of scientific research devoted to television in health and physical education. The future must provide for the stimulation of valid research in this area.

The most important next step occurred on the last day of the second conference. The collegiate health educators were receptive to proposals for producing a core of television materials for college level health education from which cooperating institutions could draw video tapes. In the judgment of the conference each cooperating college would be relieved of the burden of all the lessons and materials it needed for its own course; each could, therefore, concentrate its talent, finance and facilities on the production of those materials best produced locally. A small study committee was formed and charged with the responsibility of developing a proposal for the conference to examine in the near future.

Part III--Television in Health and Physical Education

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ. OF BRDCST.
PRIMARY COURSES						
ALL ABOUT YOU	WGBH	Boston, Massachusetts	1-2	11	15'	1/wk
ELEMENTARY HEALTH SCIENCE 3-4		Alabama ETV Comm.	3-4	33	15'	1/wk
FOCUS ON FITNESS	KCTS	Seattle, Washington	2	15	15'	1/wk
FUN AND FITNESS	WFPK	Louisville, Kentucky	2	15	15'	2/mo
GUIDELINES 1-6	KYNE	Omaha, Nebraska	1-6	4	15'	1/mo
GROWTH THROUGH PLAY K-3	KUSU	Logan, Utah	K-3	12	10'	2/wk
HEADS UP	KQED	San Francisco, Calif.	2-3	14	15'	1/wk
HEALTH		Milwaukee Public Schools	3	15	15'	1/wk
PHYSICAL EDUCATION 1-2		Oklahoma ETV Comm.	1-2	35	15'	1/wk
PHYSICAL EDUCATION 1-2	WOSU	Columbus, Ohio	1-2	36	15'	1/wk
PHYSICAL EDUCATION 3-4	WOSU	Columbus, Ohio	3-4	36	15'	1/wk
PHYSICAL EDUCATION 1-2	KPEC	Tacoma, Washington	1-2	27	15'	1/wk
PHYSICAL EDUCATION FOR YOU 1		Milwaukee Public Schools	1	30	15'	1/wk
PHYSICAL EDUCATION FOR YOU 2		Milwaukee Public Schools	2	30	15'	1/wk
PHYSICAL EDUCATION FOR YOU 3		Milwaukee Public Schools	3	30	15'	1/wk
PRIMARY PHYSICAL EDUCATION	KTEH	San Jose, Calif.	1-3	30	10'	1/wk
INTERMEDIATE COURSES						
ELEMENTARY HEALTH SCIENCE 5-6		Alabama ETV Comm.	5-6	33	15'	1/wk

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
INTERMEDIATE COURSES (cont.)						
FOCUS ON FITNESS	KCTS	Seattle, Washington	5	15	15'	1/wk
FOOD TO GROW ON	WMEM	Orono, Maine	4	10	20'	1/wk
FUN AND FITNESS	WFPK	Louisville, Kentucky	5-6	15	15'	1/wk
GROWTH THROUGH PLAY 4-6	KUSU	Logan, Utah	4-6	12	10'	2/wk
HEALTH		Milwaukee Public Schools	5	15	15'	1/wk
I'M FINE,WHO ARE YOU?	KTEH	San Jose, Calif.	4-6	30	20'	1/wk
LET'S ASK DR. TENNEY	WHA	Madison, Wisconsin	4-6	15	15'	1/wk
PHYSICAL EDUCATION 3-4		Oklahoma ETV Comm.	3-4	35	15'	1/wk
PHYSICAL EDUCATION 5-6		Oklahoma ETV Comm.	5-6	35	15'	1/wk
PHYSICAL EDUCATION	KPEC	Tacoma, Washington	3-6	27	15'	1/wk
PHYSICAL EDUCATION	KOET	Ogden, Utah	4-6	30	20'	1/wk
PHYSICAL EDUCATION	WITF	Hershey, Pa.	4-6	30	15'	1/wk
PHYSICAL EDUCATION	WOSU	Columbus, Ohio	5-6	36	15'	1/wk
PHYSICAL EDUCATION FOR YOU 4		Milwaukee Public Schools	5	30	15'	1/wk
PHYSICAL EDUCATION FOR YOU 5		Milwaukee Public Schools	4	30	15'	1/wk
PHYSICAL EDUCATION FOR YOU 6		Milwaukee Public Schools	6	30	15'	1/wk
SECONDARY COURSES						
HEALTH 7	KCSD	Kansas City, Mo.	7	71	25'	2/wk
HEALTH 8	KCSD	Kansas City, Mo.	8	34	25'	1/wk
HEALTHFUL EDUCATION FOR HEALTHFUL LIVING		Liberty Local Schools Youngstown, Ohio				

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
SECONDARY COURSES (cont.)						
HEALTH EDUCATION		Liberty Local Schools Youngstown, Ohio			10'-15'	1/wk
FUNDAMENTALS OF GOLF	WMUB	Oxford, Ohio	9-12	6	30'	1/wk
LIFE OR DEATH	KUSU	Logan, Utah	9-12	10	27'	1/wk
TO YOUR HEALTH		Alabama ETV Comm.	9-12	6	45'	1/mo
COLLEGE COURSES						
FUNCTIONAL PHYSICAL EDUCATION	WUSF	Tampa, Florida	Col.	12	25'-45'	1/wk
GENERAL HYGIENE	KOAP/ KOAC	Corvallis, Oregon	Col.	19	45'	2/wk
HEALTH EDUCATION	KCSM	San Mateo, Calif.	Col.	29	30'-45'	2/wk
BUILDING A BODY FOR LIFE		Southern Ill. Univ., Carbondale, Ill.	Col.	4	30'	2/wk
FIRST AID		Michigan State Univ., East Lansing, Michigan	Col.	4	15'-25'	2/wk
FOUNDATIONS AND FITNESS		Kent State Univ., Kent, Ohio	Col.	10	20'-30'	1/wk
FOUNDATIONS OF PHYSICAL EDUCATION-WOMEN		Michigan State Univ., East Lansing, Mich.	Col.	15	45'	1/wk
FOUNDATIONS OF PHYSICAL EDUCATION-MEN		Michigan State Univ., East Lansing, Mich.	Col.	4	15'-25'	1/wk
FUNCTIONAL HEALTH		Edinboro State College Edinboro, Pa.	Col.	32	50'	2/wk

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
COLLEGE COURSES (cont.)						
FUNDAMENTALS OF PHYSICAL EDUCATION		Univ. of Wisc., Madison, Wisc.	Col.	23	10'-20'	2/wk
HEALTH		Fresno State College Fresno, Calif.	Col.	15	50'	1/wk
HEALTHFUL LIVING		Southern Ill. Univ., Carbondale, Ill.	Col.	18	30'	2/wk
PERSONAL HEALTH		Calif. State College at Los Angeles	Col.	15	30'	1/wk
PERSONAL HEALTH SCIENCE		Central Mich. Univ., Mt. Pleasant, Mich.	Col.	29	45'	2/wk
PHYSICAL EDUCATION		Ohio State Univ. Columbus, Ohio	Col.	8	45'	1/wk
PRINCIPLES OF HEALTHFUL LIVING		San Diego State Col. San Diego, Calif.	Col.	24	20'-35'	2/wk
PROBLEMS OF PERSONAL AND COMMUNITY HEALTH		Sacramento State Univ., Sacramento, Calif.	Col.	15	45'	1/wk
SOCIAL DANCE		Michigan State Univ., East Lansing, Mich.	Col.	17	35'-50'	2/wk

Part 4

TELEVISION IN MATHEMATICS EDUCATION

This report concerns the National Center for School and College Television's conference on television in mathematics education. The conference was conducted to assess television materials now being offered in mathematics in an effort to stimulate the development of increasingly effective television materials for the nation's schools. The report is divided into three sections:

*Part I is a status report of mathematics telecourses being offered in the United States during the 1966-67 school year.

*Part II is an overview of the discussion among the eleven mathematics and television authorities who participated in the entire conference.

*Part III is a tabular breakdown of the information gathered for the conference. At the conference, lessons from most of the telecourses listed here were viewed.

The eleven conferees viewed sample lessons from telecourses, reviewed print materials (teacher's manuals and student work materials), and, during the final session, considered the state of television in mathematics education.

Those who joined NCSCT staff members at the conference are Robert B. Kane of Purdue University, Don R. Lichtenberg of the University of South Florida, Lola June May of the Winnetka Public Schools in Illinois, Robert E. Morrill of the Bay Region Instructional Television for Education in California, Philip Peak of Indiana University, Billy E. Rhoades of Indiana University, Myron F. Rosskopf of Columbia University's Teachers College, Isabelle P. Rucker of the Virginia State Department of Education, Raymond L. Smith of educational television station KQED, David W. Wells of the Oakland County Schools in Michigan, and mathematics consultant Robert W. Wirtz.

Part I--The Status of TV in Mathematics Education

For its conference, NCSCT sent questionnaires to 115 ETV stations and three closed-circuit facilities. This report does not consider materials developed or offered by commercial television stations.

Fifty-seven television courses were identified in the elementary, secondary, and in-service areas.

ELEMENTARY GRADE LEVEL

GRADE EMPHASIS Of the 57 telecourses, 59 percent (34 courses) was designed for the elementary grade level: 12 for primary grades (K-3) and 22 for intermediate grades (4-6).

FREQUENCY OF TRANSMISSION Of the 34 telecourses for the elementary grades, only 15 percent was intended for use during one semester. Eighty-five percent of the telecourses was designed for use during a full academic year. Twenty-six of the 34 telecourses were designed to be transmitted at a rate of one lesson each week. Four telecourses were offered on a twice each week basis, two telecourses on a three lessons each week basis, one telecourse on a four lessons each week basis, and another on a two lessons each month basis.

RECORDED OR UNRECORDED Only one of the 34 courses was not recorded and available for reuse; even that telecourse was recorded in part.

USED BY OTHERS The majority (21 of 34) of the telecourses was used by stations other than the producing station.

SECONDARY GRADE LEVEL

GRADE EMPHASIS Of the 57 telecourses reported, 19 percent (11 courses) was designed for the secondary grade level.

FREQUENCY OF TRANSMISSION At the secondary level, less than ten percent of the telecourses was intended for use for only one semester. The remaining 91 percent of the telecourses was designed for use through a full academic year. The frequency of lesson transmissions was greater at the secondary level than at the elementary level--77 percent of the elementary level telecourses was transmitted at the one lesson each week rate while only nine percent of the secondary materials was so designed.

One secondary course was designed for a transmission rate of one lesson each week, four telecourses were designed on the basis of two lessons each week and four lessons each week, and two telecourses were intended to be used at the rate of five lessons each week.

RECORDED OR UNRECORDED Just over half (six of 11) of the telecourses were recorded and available for reuse.

USED BY OTHERS Just under half (five of 11) of the telecourses were used by stations other than the producing station.

IN-SERVICE TEACHER EDUCATION

Twenty-one percent (12 series) was designed for teacher in-service education.

FREQUENCY OF TRANSMISSION Only eight percent of the in-service teacher education series was designed for use throughout a complete academic year. Ninety-two percent of the series was intended to be used during one semester.

Eight of the series were to be transmitted at a rate of one lesson each week, three of the series were to be shown at the rate of two lessons each week, and one series was to be shown at a rate of three lessons each week.

RECORDED OR UNRECORDED All of the in-service teacher education series were recorded and available for reuse.

USED BY OTHERS Only three of the 12 series were used by stations other than the producing station.

PART II--An Overview

During the last two days of February this year (1967), 11 men and women with wide and varied experience in mathematical education met at the National Center for School and College Television in Bloomington, Indiana, to study video tapes and kinescopes that had been gathered from all parts of the country. The purposes of the conference were (a) to view lessons from a large number of telecourses dealing with different phases of mathematical education; (b) to assess the adequacy of existing television materials for school or teacher instruction; and (c) to make suggestions for the development of more effective materials. Some of the 11 conferees had been, or were, mathematics television teachers. Others were noted for their development of materials for elementary and secondary school programs. A few were primarily interested in production of television materials for educational purposes. To use language that was common to all of the video tapes viewed: The intersection of these subsets was not empty.

With a quarter-inch thick stack of rating sheets before them, the panel settled down to watch the replays of sample lessons from 57 telecourses in mathematics. These had been gathered from every part of the country--north, south, east, and west. Most of the lessons were at the elementary school level, but some were intended for secondary school consumption--at both the junior and senior high school levels. Each tape, or film, was viewed long enough to serve as the basis for valid judgment.

Occasionally, the screening members asked that a tape be cut off at the end of a few minutes, for the familiarity of the material and the methodology shown gave an adequate indication of the whole program. At other times, one or more members insisted that a tape be run for its whole length, for they desired to see how the television teacher worked out the lesson.

A retrospective look at the television teachers seen leads to some interesting observations. There seemed to be a design to the choice made. The television teacher looked, spoke, and acted (taught) as the intended audience had become used to in ordinary classroom situations. If the audience was elementary school teachers, then the television teacher looked and spoke like any inservice teacher would have for the particular viewing public. On the other hand, for elementary school children there was a teacher who was personable, but not glamorous; who spoke as an elementary school teacher does; and who was able to generate great enthusiasm for child-like activities. In short, the classroom was transferred to video tape without the stimulating presence of pupils or students or other teachers. Consciously or unconsciously the television teachers appeared the very image of a classroom teacher. In just one case did it seem that efforts had been made to secure a dynamic personality as teacher, one who could almost qualify as a professional performer.

MATHEMATICS TELECOURSES TODAY

Current use. Judging on the basis of the panel's viewing, there are four principal uses of television as an instructional medium: (a) in-service teacher training, (b) classroom instruction, (c) enrichment, and (d) provision of a course in mathematics that would not be available otherwise.

The in-service teacher training telecourses are directed at elementary school teachers. Quite clearly, such a course originated in a state or a school system large enough to have access to educational television facilities. Every one of the tapes used a straight lecture method of instruction. Sometimes a few physical objects were used to illustrate a concept, but usually a small board served for this purpose. The reaction of the panel was that mass exposure to some of the ideas of a new mathematics program had been attained at a sacrifice. Such tapes never involved anyone but the television teacher.

Classroom instruction via television is going on at both the elementary and the secondary school levels. With only a few exceptions, no audience of any sort is present. These telecourses have materials related to each broadcast lesson for both the classroom teacher and students. Sometimes such a telecourse has dual purposes of pupil instruction and teacher training.

It was not clear to the panel how a school uses the enrichment television programs. Usually these are broadcast once each week. Does a whole class participate, or just a part of the class?

Perhaps the most well-known example of mathematics material not otherwise available are the NBC-"Continental Classroom" courses, "Modern Algebra and the Teaching of Modern Algebra" and "Probability and Statistics and the Teaching of Probability and Statistics." These courses included material for senior high school teachers, as well as providing a complete course in modern algebra and probability and statistics. At the conference, there was one instance of such material for the elementary grades. The others were intended for high school students. Such courses serve a need that exists, for many schools have too few students interested in advanced mathematics to justify scheduling a class. Via television, and the elaborate print materials involved, such students can obtain the instruction they desire. Calculus, for example, might be such a completely taped course.

Quality and adequacy. Television teaching in mathematics is quite ordinary. The panel did not see any television teacher that it was willing to classify as a master teacher. It is faint praise indeed to call the content of the programs "adequate." The content ought to be more than adequate. There were mistakes in mathematics; the use of television as a medium was pitiful; the involvement of an audience was missing. Really, the panel was of the opinion that classroom instruction patterns had been transferred, like a decal, to television instruction. The limitations of classroom instruction became even more limiting when the narrow range of a camera and the 25-inch screen of a receiver had to be taken into account.

Television as a basic and supplementary source. The majority of the panel's members were not willing to admit that mathematics telecourses served as a basic resource for instruction today. They were skeptical of the effectiveness of a program with the double purpose of pupil and teacher instruction. However, a minority clung to the point of view that a metropolitan school system with its hundreds of new elementary school teachers each year needed some sort of mass in-service training.

A telecourse, ostensibly for pupils, that had elaborate print materials for both teachers and pupils served a need that no other means of instruction could. Such a course illustrated for teachers the "what" and "how" of the mathematical concepts presented and carried these aspects of the course further with the print materials. It seemed to this minority that such a telecourse left a great deal for the teacher to do, actively involving her and the pupils.

The panel grudgingly admitted that a television course was a resource for students in isolated sections of the country. Some schools are so small that many capable students cannot get the courses they desire and need for effectively going further in their education. The panel affirmed wholeheartedly that these students deserved better instruction than illustrated by the lessons it viewed.

As a resource for supplementary instruction in mathematics, television has an important role to play. Perhaps because it is such a troublesome problem for mathematics teachers, the panel emphasized the necessity for programs that would serve as motivation for topics in mathematics. Another supplementary resource mentioned by several members of the panel was illustration of ways to teach troublesome units. The division algorithm and introduction of negative members were cited as examples. A third use of television that the panel envisioned was for enrichment. By this the panel meant exploring a topic more deeply than a classroom teacher was able to do. Such a unit would use all of the visual techniques available to a studio but not to the classroom teacher. Also by enrichment the panel meant development of supplementary topics for different levels of student capabilities. There was a firm belief expressed that low achievers needed such material, especially prepared for them, just as much as honors students needed to go beyond a standard syllabus.

MATHEMATICS TELEVISION TOMORROW

The television teacher. The panel became convinced as lesson followed lesson that something must be done to make a television teacher more effective. As mentioned earlier, the prototype for choice of a teacher seemed to be a rather ordinary classroom teacher. Some quite obviously had had little instruction in what to do when working in this new medium. Direction was not apparent at all. Camera work was mediocre. The present fad for camera close-ups has no place in school television. It isn't the teacher that the camera needs to watch but the mathematics being taught or the visual being used.

The panel at one point erupted into a period of lamenting that it seemed as if nothing had been learned from ETV's experience. Most tapes showed no evidence of knowledge of what had been learned in school television during the past decade. Something must be done for the television teacher.

One suggestion made by the panel was that the National Center for School and College Television establish workshops for those persons who are going to be television teachers. Such workshops, or institutes, would serve to inform participants of the information gleaned from evaluation of ETV and expose them to a variety of points of view as expressed by experts in the field. There might be illustration also of effective ways for a television teacher to function when on camera. Dress, voice, gestures, and cooperation with camera crews and directors--all could form part of the instruction. Such workshops would not need to have participants from the same subject, for the emphasis would be on techniques that transcend subject matter.

An unusual suggestion that came from the panel was that the classroom teacher who views the television program needs instruction. In fact, the panel went on to suggest that television itself might be used to train a teacher. It is not clear whose responsibility such training becomes. Is it that of an individual teacher education program? Or does it, perhaps, belong to the school supervisory program? In the latter case, it would be on-the-job training, a place where the instruction often proves to be most effective.

The characteristics of an effective television teacher, other than knowledge of the medium's techniques, are the same as those of a master classroom teacher. Two are worthy of mention. He must be dynamic; there must be apparent on the screen movement, action, and involvement of the audience. Secondly, he must be willing to subject himself to severe self-criticism. By examining his own actions, perhaps watching a rehearsal tape, he can and should improve.

An effective television lesson. There was some discussion of the requirements of different sections of the country. Perhaps some regions needed a different sort of program than another. This idea received little favorable comment, for the majority of the panel members felt that the responsibility of the National Center was country wide.

Rather, the panel asserted, there was need for a variety of materials, well focused, and with a carefully described and circumscribed audience. The panel believed that distribution of programs should be selective. A corollary is that a user should be discouraged from using a program for an audience that did not fit the one described in the program. In the opinion of the panel, too many of the lessons tried to be all things to all people. That is, too many mathematical ideas were touched upon. Too many audiences were contemplated. The better lessons treated one mathematical concept in some depth, contained good methodology, and focussed, for example, on a particular elementary school grade.

Somehow, the viewing group felt much more involved in a lesson if there were students present, not primed with answers but actively trying to understand and to master the concept being presented by the television teacher. In view of the recommendation of the preceding paragraph, it seems that some children will be necessary participants in future mathematics television. With them present, a television teacher can demonstrate the sort of classroom procedures that are preferred today. The panel asserted that one important function of ETV might be to present new and better ways to involve children, elementary and secondary, in the learning of mathematics.

A problem that the panel spent some time discussing should be mentioned. This is the potential danger of a telecourse alienating teachers. The members felt that danger existed if the points of view presented via television differed in too many respects from those of the on-ground teachers. An implication seems to be that a mathematics telecourse cannot be revolutionary in character but must be evolutionary. The differences between the viewing teachers and the television teacher might occur with respect to methods or content or, particularly at the elementary school level, approaches to the standard algorithms. These days there are strong opinions about the language, the words used in mathematics programs. If the television teacher's use of language does not meet the standards of the viewing teachers, there is likely to be a complete rejection of the program.

What might be done? Teachers are aware of the need to improve the teaching of mathematics, and they also know that there are ways to learn more about mathematics. But the panel insisted the time is rapidly passing in many sections of the country for in-service mathematics courses for teachers. Success for future telecourses will depend upon new approaches to teacher education. A possibility for such a new approach, suggested by a member, is to design a telecourse that presents good mathematics in the way in which viewers might teach the mathematics. That is, turn to methodology. Epigrammatically, one might say that teachers know the mathematics and now they want to know what to do with it.

At the end of the two days of looking at what exists now in mathematics telecourses, the panel's conclusion was that the medium of television had not yet been used to advantage. There are too many shoestring operations. Someone with an idea writes a proposal, secures a grant, and goes into production. This is not the way to produce quality school television programs, in mathematics or in any other field. The time has come for more professional--and more costly, perhaps--work on television programs. The panel felt there ought to be more informal evaluation of programs. For example, a prototype tape could be made, tried out in a few places to secure criticism. Only then should the full program be developed.

Besides programs devoted to troublesome units of work and motivation mentioned earlier, the panel believed there should be some programs that made clear the relationship of mathematics to other parts of the curriculum. Perhaps such programs can be classified as motivational, but that was not really the tenor of the panel discussion. Rather the panel felt there exists a responsibility to make as clear as possible the inter-relations of mathematics and our increasingly technically oriented culture. Also found missing by the panel were programs that made clear the structure of mathematics. What is desired is not just a list of axioms and a formal presentation of their use in mathematical proof but a development, through presentation of many examples, of how the same set of statements characterize all of those examples.

Part III--Television in Mathematics Education

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST
ELEMENTARY COURSES						
ARITHMETIC-3	KUON	Lincoln, Nebraska	3	30	15'	1/wk
ARITHMETIC-1	WHA	Madison, Wisconsin	1	32	15'	1/wk
ARITHMETIC-2	WHA	Madison, Wisconsin	2	48	15'	1/wk
ARITHMETIC-3	WHA	Madison, Wisconsin	3	64	15'	2/wk
MATH-A-MAGIC	WUFT	Gainesville, Florida	3	27	20'	2/mo
MATHEMATICS-1	KRMA	Denver, Colorado	1	35	20'	1/wk
MATHEMATICS-2	KRMA	Denver, Colorado	2	35	20'	1/wk
MATHEMATICS-3	KRMA	Denver, Colorado	3	34	20'	1/wk
SHAPES IN SPACE	WETA	Washington, D.C.	2-3	8	15'	1/wk
SETS AND SYMBOLS	WTVS	Detroit, Michigan	2	37	15'	2/wk
TODAY'S MATH-2	WCVE	Richmond, Virginia	2	31	15'	1/wk
TODAY'S MATH-3	WCVE	Richmond, Virginia	3	30	20'	1/wk
INTERMEDIATE COURSES						
ARITHMETIC-4	WHA	Madison, Wisconsin	4	68	15'	2/wk
PATTERNS IN ARITHMETIC-5	WHA	Madison, Wisconsin	5	68	15'	3/wk
PATTERNS IN ARITHMETIC-6	WHA	Madison, Wisconsin	6	68	15'	3/wk
ARITHMETIC-4	KUON	Lincoln, Nebraska	4	30	15'	1/wk
ARITHMETIC-5	KUON	Lincoln, Nebraska	5	30	15'	1/wk
ARITHMETIC-6	KUON	Lincoln, Nebraska	6	30	15'	1/wk
EXPLORING MATHEMATICS	Co.P.S.*	Los Angeles, Calif.	6	27	20'	1/wk
EXPLORING MATHEMATICS	WNDT	New York, N. Y.	5-6	64	20'	2/wk

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*Public Schools

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
INTERMEDIATE COURSES (cont.)						
LET'S FIGURE-4	KQED	San Francisco, Calif.	4	27	20'	1/wk
LET'S SOLVE IT-5	KQED	San Francisco, Calif.	5	27	20'	1/wk
MATHEMATICS	WILL	Carbondale, Illinois	5-6	12	30'	1/wk
MATHEMATICS-4	KRMA	Denver, Colorado	4	31	20'	1/wk
MATHEMATICS-5	KRMA	Denver, Colorado	5	31	20'	1/wk
MATHEMATICS-6	KRMA	Denver, Colorado	6	35	20'	1/wk
MATHEMATICS-6	WNYE	Brooklyn, N.Y.	6	15	20'	1/wk
PRIMARY CONCEPTS OF MATH	DPI.**	State of Pennsylvania	3-4	15	15'	1/wk
SPEAKING OF NUMBERS	WMHT	Schenectady, N.Y.	5-6	28	30'	1/wk
TAKE A NUMBER	KQED	San Francisco, Calif.	6	27	20'	1/wk
TODAY'S MATH-4	WCVE	Richmond, Virginia	4	30	20'	1/wk
TODAY'S MATH-5	WCVE	Richmond, Virginia	5	30	20'	1/wk
TODAY'S MATH-6	WCVE	Richmond, Virginia	6	30	25'	1/wk
WONDERFUL WORLD OF NUMBERS	MPATI	Lafayette, Indiana	6	128	20'	4/wk
SECONDARY COURSES						
ALGEBRA I		South Carolina ETV	8-9	160	30'	5/wk
ALGEBRA II		South Carolina ETV	9-10	160	30'	5/wk
CALCULUS	WHRO	Norfolk, Virginia	10-12	125	30'	4/wk
CALCULUS	WENH	Durham, New Hampshire	10-12	120	30'	4/wk
GREATER CLEVELAND MATH	WVIZ	Cleveland, Ohio	6-9	15	30'	1/wk
MATHEMATICS-7	WFPK	Louisville, Ky.	7	144	20'	4/wk
MATHEMATICS-8	WFPK	Louisville, Ky.	8	144	20'	4/wk
MODERN MATHEMATICS-7	KTCA	Minneapolis, Minn.	7	62	30'	2/wk

**Department of Public Instruction

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
SECONDARY COURSES (cont.)						
PATTERNS IN MATHEMATICS	WHA	Madison, Wisconsin	8-9	76	25'	2/wk
SEEING THROUGH MATHEMATICS-1		Arlington Hts.,Ill.	7	38	20'	2/wk
THE THIRD R		Alabama ETV	11-12	76	25'	2/wk
IN-SERVICE TEACHER COURSES						
COMPUTATIONAL SKILLS	City P.S.*	Los Angeles, Calif.	In-s	4	30'	1/wk
MATH EDUCATION	WFSU	Tallahassee, Florida	In-s	28	25'	1/wk
MATH IN-SERVICE	KTCA	Minneapolis, Minn.	In-s	12	30'	1/wk
MATHEMATICS	KFME	Fargo, N.D.	In-s	10	30'	1/wk
MATHEMATICS	KFME	Fargo, N.D.	In-s	24	50'	2/wk
MODERN MATHEMATICS	WNED	Buffalo, N.Y.	In-s	30	30'	2/wk
SETS AND SYSTEMS	WETA	Washington, D.C.	In-s	15	30'	1/wk
SMSG MATH	WPSX	Univ. Park, Penn.	In-s	30	30'	1/wk
STRUCTURE OF ARITHMETIC AND ALGEBRA	KDPS	Des Moines, Iowa	In-s	15	30'	1/wk
TEACHING MATHEMATICS	KTCA	Minneapolis, Minn.	In-s	15	30'	1/wk
TEACHING MODERN MATH	WPSX	University Park, Penn.	In-s	38	30'	3/wk
THE THIRD R		Mohawk-Hudson ETV, N.Y.	In-s	35	30'	2/wk

Part 5

INSTRUCTIONAL TELEVISION IN MUSIC EDUCATION

In a singular effort to stimulate the development of increasingly effective television materials for the nation's schools, the National Center for School and College Television is conducting conferences to assess television materials now being offered in specific subject areas.

This report concerns NCSCT's conference on television in music education. It is divided into four sections:

*Part I is a status report of music telecourses being offered in the United States by educational television stations during the 1965-66 school year.

*Part II is an overview of the discussion among the seven music and instructional authorities who participated in the conference.

*Part III is a tabular breakdown of the information gathered for the conference. Here, one can see at a glance what is being offered to students across the country.

*Part IV is a listing of descriptions of the music telecourses offered in 1965-66. The descriptions are drawn from the sample lessons and printed information made available by stations for the conference.

At the conference, the educational and instructional television authorities viewed sample lessons from telecourses, reviewed printed materials (Teacher's Manual), and then, during the final session, considered the state of television in music education.

The authorities who joined the NCSCT staff at the conference are Emile H. Serposs, director of the Division of Music for the Chicago Board of Education; Jack Watson, dean of the College-Conservatory of Music, University of Cincinnati; Raymond L. Smith, director, Instructional Television Service of KQED, San Francisco; Colby Lewis, professor of Television and Radio, Michigan State University; Imogene Schwanke, music supervisor, Monticello Public Schools, Monticello, Indiana; Dorothy G. Kelley, professor of Music Education, Indiana University; and Donald Jones, coordinator of institutional radio and television, Standard Oil Company of California.

Part I--The Status of ITV in Music Education

For the conference, NCSCT contacted 116 educational television stations. This portion of the report is based upon materials and information made available by 75 educational television stations. The report does not consider the materials being developed and offered by closed-circuit facilities or by commercial television stations.

It was reported that 138 music telecourses were being offered by 55 educational television stations. Of these courses, 103 were different and the remaining 35 were broadcast by more than one station.

GRADE EMPHASIS The division of the total offerings of instructional television series according to grades showed that 94 percent were intended for elementary grades, with 56 percent aimed at primary and 38 percent at intermediate grade levels.

Secondary grades were being offered only five percent of the total, with one percent designed for grades 9-12 and four percent designed for grades 7 and 8. The remaining one percent was being broadcast for in-service teacher education.

LENGTH OF LESSONS Elementary grade lessons most frequently were 15 minutes in length; secondary lessons, most frequently 30 minutes; and all in-service teacher education telecourses were 30 minutes in length.

On the elementary level 62 percent of the lessons in all courses being offered were 15 minutes in length. At the secondary level, 67 percent were 30 minutes in length and 33 percent, 20 minutes.

Lesson length ranged from 10 to 30 minutes.

NUMBER OF LESSONS IN TELECOURSE The number of lessons in an entire telecourse was dependent upon the frequency of lessons each week and whether the telecourse was broadcast for a full academic year, a semester, or part of a semester. Telecourses ranged in number from one lesson to 180. The largest number of courses had 61 or more lessons: generally, these were the courses that had two lessons a week for a full academic year. Series with 31-40 lessons, the second largest grouping, were usually designed to have one lesson a week. Remaining telecourses were evenly distributed among these groupings: 1-10 lessons, 11-20 lessons, 21-30 lessons, and 51-60 lessons.

WEEKLY FREQUENCY OF LESSONS Eighty-five percent of the telecourses had one or two lessons a week. Forty-eight percent of the telecourses had one lesson a week: 96 percent for K-6 and four percent for secondary. Thirty-seven percent of the telecourses had two lessons a week: all for K-6. Forty-nine percent of the telecourses had lessons that were rebroadcast at least once during the school year.

TAPE OR LIVE Eighty-seven percent of the educational television stations reporting indicated that the telecourses they broadcast were recorded on videotape (83 percent) or on film (four percent) to insure reuse. The remaining 13 percent of the telecourses being offered were unrecorded.

OUTSIDE SOURCES One-fourth of all music courses offered were produced in places other than the broadcasting station. Of the stations broadcasting music courses, one-third were offering courses produced outside of their locale.

Part II--An Overview

Seven authorities in music education and instructional television found little to be enthused about after viewing portions of 70 lessons from almost every telecourse being broadcast in the United States today. The seven met with NCSCT staffers in Bloomington, Indiana.

Greatest concern was for lack of musicianship displayed by some of the teachers and the generally poor quality of their teaching.

While concern was also expressed for the evident lack of imagination, creativity, performance, and continuity, special emphasis was placed on the pivotal importance of the television teacher, the quality of his teaching, and the adequacy of his musicianship.

One conference participant forwarded the discouraged opinion that "television in music education is existing in spite of itself."

However, one of the conference's findings was that televised music education--whether or not the classroom teacher welcomes it and whether or not it is as effective as it might be--is being widely used in the nation's schools. More and more administrators are turning to television in an effort to reach large numbers of students with too few teachers and to bolster the quality of a school system's music instruction.

While the music and instructional television authorities appreciated the difficulty of producing music lessons for television, they insisted that steps must be quickly taken to improve the quality and effectiveness of what is being telecast. They pointed out that both educators and broadcasters have a decade of experience that must be measured and used. Yet, in spite of their disappointment, they remained optimistic about television's potential in music education.

Consensus was that television in music education can be used as a major classroom resource to initiate instruction as a complementary resource to reinforce the classroom teacher's presentation, or as enrichment to extend the range of content and to broaden student experiences. There was general agreement that television can also play a meaningful part in in-service and pre-service teacher education.

In considering the crucial components of an effective television lesson in music the participants stressed the importance of selecting an effective television teacher. (Throughout the conference, each authority returned again and again to the importance of the teacher.)

The teacher must appreciate his own limitations, must be aware of the sensitivities and the needs of both the classroom teacher and the student, must involve the classroom teacher, must be musically competent, must be able to make available to the classroom first rate performances, and must possess certain unique characteristics necessary for a television teacher.

In selecting materials to be used in the television lesson, television teachers must make careful decisions about learning objectives and how best to reach those objectives. Then, and only then, should lessons be planned and materials developed for presentation.

Consensus was that music selected for either singing or listening must be musically valid and that television lessons ought to be related to major texts at levels where texts are being used. Another suggestion generally agreed upon was that supplementary classroom materials might be made available for use with a television course, should not be too long, should contain scores for the music used in the television lesson, and should not assume that the classroom teacher has much time for before and after-lesson activities.

There was agreement that television teachers must do more to motivate students and that they should strengthen both lesson and course continuity, organization, and structure.

"The sample television lessons demonstrate very little thoughtful motivation. There is little genuine effort to interest students in what is being presented or in trying to make students like music," one authority commented.

Without adequate two-way communication between the television teacher and the classroom, singing should be taught only on a "This is how it ought to be done" basis. There was general agreement that songs ought to be taught for a purpose consistent with the lesson's overall objectives.

"Enjoyment in music education through television should not be equated with fun," another authority said. "Enjoyment, he continued, "is a major but not the sole aim of music education. Music education must also contribute to the individual's total development--for instance, listening and analytic skills."

The others agreed and outlined other goals toward which televised music education ought to be striving:

.....television ought to help students understand what makes music--melody, singing, instrument playing, listening, body movement.

.....television ought to help develop certain basic concepts about music.

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.....television ought to help students understand what makes music--melody, singing, instrument playing, listening, body movement.

.....television ought to help develop certain basic concepts about music.

.....television ought to help develop a student's techniques of perception and performance.

.....television ought to develop a refined taste in music.

.....television ought to contribute to the student's total development by furthering his understanding of the creative process and a deeper understanding of himself through his own emotional response to the music being used by the television teacher.

.....television ought to bring into the classroom materials usually not available.

.....television ought to develop materials that appeal to both girls and boys.

Calling for an increase in depth of musical understanding as students move up the academic ladder, the conference noted that television in music education is currently most widely used at the elementary grade level. At the elementary level, the experts emphasized that television teachers make their lessons enjoyable and imaginative. They also urged that teachers stress development of listening skills as opposed to singing skills. To accomplish these goals, they suggested that a team of television teachers may prove effective.

Part III--ITV in Music Education

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.		USED BY OTHERS
ACCENT ON MUSIC	WGBH& 21 Inch Classroom	Boston, Mass.	7-10	8	30'	1/mo	T*	yes
AMERICA SINGS	KYNE	Omaha, Neb.	5	31	15'	1/wk	T	no
CONCERTS FOR YOUNG PEOPLE	WQED	Pittsburgh, Pa.	4-9	4	30'		T	no
DO RE MI	Georgia ETV Council		4-5	33	20'		T	no
FEDOR KABALIN MUSIC WORKSHOP	WUCM	University City, Michigan	9-12	5	30'	1/wk	T	no
FINE ARTS: MUSIC	KLRN	Austin, Texas	4-6	14	25'	2/mo	T	no
FROM THE RECORD SHOP	KTCA	St. Paul, Minn.	6	32	20'	1/wk	L**	yes
INTRODUCING SYMPHONY ORCHESTRA	KVIE	Sacramento, Calif.	3-6	5	20'	1/wk	T	yes
INVITATION TO MUSIC	Los.Ang City Schls.	Los Angeles, Calif.	3	32	30'	1/wk	T	no
INVITATION TO MUSIC			4	32	30'	1/wk	T	no
IT'S MUSIC TIME	KERA	Dallas, Texas	1-2	16	15'	1/wk	T	no
JAN KOK MUSIC THEATER	WENH	Durham, N.H.	K-3	62	15'	2/wk	T	yes
KEYNOTES OF MUSIC	WFME	Orlando, Fla.	1-6	180	20'	5/wk	T	no
KEYS TO MUSIC	KYNE	Omaha, Neb.	4	31	15'	1/wk	T	no
LET'S ENJOY MUSIC	KTPS	Tacoma, Wash.	2	70	15'	2/wk	T	no
LET'S EXPLORE MUSIC	KTPS	Tacoma, Wash.	1	70	15'	2/wk	L	no
LET'S LISTEN AND SING	KYNE	Omaha, Neb.	1	33	15'	1/wk	T	no
LET'S MAKE MUSIC	WCVE	Richmond, Va.	2	26	30'	1/wk	T	no
LET'S MAKE MUSIC	WCVE	Richmond, Va.	3	26	30'	1/wk	T	no
LET'S MAKE MUSIC	WCVE	Richmond, Va.	4	26	30'	1/wk	T	no
LET'S SING TOGETHER	KCTS	Seattle, Wash.	3	69	15'	2/wk	T	yes
LIVING WITH MUSIC	KYNE	Omaha, Neb.	6	31	15'	1/wk	T	no

*T -Tape
**L -Live

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.		USED BY OTHERS
MAGIC MUSIC	WJCT	Jacksonville, Fla.	1-6	34	25'	1/wk	T	no
MELODY TIME	WDCN	Nashville, Tenn.	3	33	20'	1/wk	T	no
MERRILY SING	KCTS	Seattle, Wash.	2	70	15'	2/wk	T	yes
MUSIC ONE	KPEC	Tacoma, Wash.	1	70	20'	2/wk	L	no
MUSIC TWO	KPEC	Tacoma, Wash.	2	100	20'	3/wk	L	no
MUSIC THREE	KPEC	Tacoma, Wash.	3	100	20'	3/wk	L	no
MUSIC FOUR	KPEC	Tacoma, Wash.	4	100	20'	3/wk	L	no
MUSIC FIVE	KPEC	Tacoma, Wash.	5	70	20'	2/wk	L	no
MUSIC SIX	KPEC	Tacoma, Wash.	6	70	20'	2/wk	L	no
MUSIC-1	KETA	Norman, Okla.	1	72	15'	2/wk	T	no
MUSIC-2	KETA	Norman, Okla.	2	72	15'	2/wk	T	no
MUSIC-3	KETA	Norman, Okla.	3	72	15'	2/wk	T	no
MUSIC-4	KETA	Norman, Okla.	4	72	15'	2/wk	T	no
MUSIC-5	KETA	Norman, Okla.	5	72	15'	2/wk	T	no
MUSIC-6	KETA	Norman, Okla.	6	72	15'	2/wk	T	no
MUSIC-5	KWCS	Ogden, Utah	5	70	20'	2/wk	T	no
MUSIC-6	KWCS	Ogden, Utah	6	70	20'	2/wk	T	no
MUSIC GRADE 2	KRMA	Denver, Col.	2	35	20'	1/wk	L	no
MUSIC GRADE 3	KRMA	Denver, Col.	3	31	20'	1/wk	L	no
MUSIC GRADE 4-6	KRMA	Denver, Col.	4-6	35	20'	1/wk	L	no
MUSIC 5-6	WNED	Buffalo, N.Y.	5-6	28	20'	1/wk	T	no
MUSIC-1	KTCA	St. Paul, Minn.	1	11	15'	1/wk	T	yes
MUSIC-2	KTCA	St. Paul, Minn.	2	11	15'	1/wk	T	yes
MUSIC-3	KTCA	St. Paul, Minn.	3	12	15'	1/wk	T	yes
MUSIC-4	KTCA	St. Paul, Minn.	4	11	15'	1/wk	T	yes
MUSIC-5	KTCA	St. Paul, Minn.	5	10	15'	1/wk	T	yes
MUSIC-6	KTCA	St. Paul, Minn.	6	10	15'	1/wk	T	yes
MUSIC-K	KTCA	St. Paul, Minn.	K	10	15'	1/wk	T	yes

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.		USED BY OTHERS
MUSIC BOX	WFPK	Louisville, Ky.	3	72	20'	2/wk	L	no
MUSIC BOX	WFPK	Louisville, Ky.	5	72	20'	2/wk	L	no
MUSICAL CARROUSEL	KOAP/ KOAC	Corvallis, Ore.	4	29	15'	1/wk	L	no
MUSIC FOR LISTENING	Ala. ETV	Montgomery, Ala.	5-6	32	30'	1/wk	T	no
MUSIC FOR YOU	MPATI	Lafayette, Ind.	4-6	64	20'	1/wk	T	yes
MUSIC FOR YOU (lower primary)	WMVS/ WMVT	Milwaukee, Wis.	1	8	15'	1/3wks	T	no
MUSIC FOR YOU (middle primary)	WMVS/ WMVT	Milwaukee, Wis.	2	8	15'	1/3wks	T	no
MUSIC FOR YOU (upper primary)	WMVS/ WMVT	Milwaukee, Wis.	3	8	15'	1/3wks	T	no
MUSIC FOR YOU 4-6	WMVS/ WMVT	Milwaukee, Wis.	4-6	8	20'	1/3wks	T	no
MUSIC FOR YOUNG PEOPLE	NET	New York, N.Y.	4-6	13	30'	1/wk	K**	yes
MUSIC MAKERS	WDCN	Nashville, Tenn.	4	6	30'	1/wk	T	no
MUSIC ROOM	WMSB	East Lansing, Mich.	1-2	69	10'	2/wk	T	
MUSIC ROOM 1	WKNO	Memphis, Tenn.	1	60	15'		T	yes
MUSIC ROOM 2	WKNO	Memphis, Tenn.	2	60	15'		T	yes
MUSIC ROOM 3	WKNO	Memphis, Tenn.	3	60	15'		T	no
MUSIC ROOM 4	WKNO	Memphis, Tenn.	4	60	15'		T	no
MUSIC ROOM 5	WKNO	Memphis, Tenn.	5	60	15'		T	no
MUSIC ROOM 6	WKNO	Memphis, Tenn.	6	60	15'		T	no
MUSIC TIME	KDPS	Des Moines, Iowa	5	35	15'	1/wk	T	no
MUSIC TIME	KDPS	Des Moines, Iowa	4	35	15'	1/wk	T	no
MUSIC TIME	KDPS	Des Moines, Iowa	6	35	15'	1/wk	T	no
MUSIC TIME	KDPS	Des Moines, Iowa	2	35	15'	1/wk	T	no

**K -Kinescope

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.		USED BY OTHERS
MUSIC TIME	KDPS	Des Moines, Iowa	3	35	15'	1/wk	T	no
MUSIC TIME	KDPS	Des Moines, Iowa	1	35	15'	1/wk	T	no
MUSIC TIME I	Ga.	Atlanta, Georgia	3-4	33	30'		T	no
MUSIC TIME II	ETV	Atlanta, Georgia	5-6	34	30'		T	no
PATHWAYS TO MUSIC	Ga.	Atlanta, Georgia	INS	4	30'		T	no
PATHWAYS TO DISCOVERING MUSIC	ETV	Atlanta, Georgia	INS	4	30'		T	no
PATTERNS IN MUSIC	WCVE	Richmond, Va.	5	30	25'	1/wk	T	no
PRIMARY MUSIC OVERVIEW	KOAP/ KOAC	Portland, Ore.	INS	1	30'	1	T	no
RHYMES, RHYTHMS & ROUNDS	KCTS	Seattle, Wash.	4	68	15'	2/wk	T	yes
SING A SONG AT SIGHT	KCSD	Kansas City, Mo.	4	16	15'	2/mo	L	no
SING AND PLAY	Ga. ETV	Atlanta, Georgia	1-3	33	20'		T	no
SING, CHILDREN, SING	WGBH	Boston, Mass.	K-2	15	15'	1/wk	T	yes
SING HI, SING LO	NET	New York, N.Y.	K-3	52	15'	2/wk	K	yes
SINGING AND DOING	KYNE	Omaha, Neb.	3	34	15'	1/wk	T	no
SINGING, LISTENING & DOING	MPATI	Lafayette, Ind.	K-3	64	15'	2/wk	T	yes
SINGING TOGETHER	KTCA	St. Paul, Minn.	3	64	½-20' ½-15'	2/wk	L	yes
SONGS AND SOUNDS	KCTS	Seattle, Wash.	3	68	15'	2/wk	T	yes
SOUNDS, SONGS AND SYMBOLS	WVIZ	Cleveland, Ohio	4-6	22	20'	1/wk	T	no
STEPPING INTO RHYTHM	WVIZ	Cleveland, Ohio	K-2	32	15'		T	no
TAKE NOTE	KQET	Ogden, Utah	K-1	36	20'	2/wk	T	no
THERE IS MUSIC IN THE AIR	WNED	Buffalo, N.Y.	1-2	28	20'	1/wk	T	no

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.		USED BY OTHERS
TIME FOR MUSIC	WMSB	East Lansing, Mich.	3-4	33	30'	1/wk	T	no
TIME FOR MUSIC	Central Mich ETV	Marquette, Mich.	3-4	35	15'	1/wk	T	no
U AND I IN MUSIC	KQET	Ogden, Utah	K-3	52	15'	2/wk	T	yes
U AND I IN MUSIC	KQET	Ogden, Utah	4-6		15'		T	yes
UNDERSTANDING MUSIC I	WMHT	Schenectady, N.Y.	K-2	32	15'	1/wk	T	no
UNDERSTANDING MUSIC II	WMHT	Schenectady, N.Y.	3-4	30	15'	1/wk	T	no
UNDERSTANDING MUSIC III	WMHT	Schenectady, N.Y.	5-6	31	15'	1/wk	T	no
WE READ AND SING	KYNE	Richmond, Va.	2	33	15'	1/wk	T	no
WORDS AND MUSIC	WEDU	Tampa, Fla.	4-6	34	25'	1/wk	T	yes
WORLD OF MUSIC	Ga. ETV	Atlanta, Georgia	6-7	33	20'	1/wk	T	no

Part 6

TELEVISION IN SCIENCE EDUCATION

This report concerns the National Center for School and College Television's conference on television in science education. The conference was conducted to assess television materials now being offered in science in an effort to stimulate the development of increasingly effective television materials for the nation's schools. The report is divided into three sections:

*Part I is a status report of science telecourses being offered in the United States during the 1966-67 school year.

*Part II is an overview of the discussion among the eleven science and television authorities who participated in the conference.

*Part III is a tabular breakdown of the information gathered. The materials listed in this section form the basis for Part I. Lessons from most of the telecourses listed here were viewed during the conference.

The eleven conferees viewed sample lessons from telecourses, reviewed print materials (teacher's manuals and student work materials), and, during the final session, considered the state of television in science education.

The eleven authorities who joined NCSCT staff members at the conference are Mildred Ballou of Ball State Teachers College in Indiana; Lawrence Binder of the National Science Foundation; Lee Franks, executive director of television for the Georgia State Department of Education; Robert Gerletti of the Los Angeles County Schools in California; Richard Haney of the University of Wisconsin; Arthur Livermore of the American Association for the Advancement of Science; Rhea Sikes of educational television station WQED in Pittsburgh; Donald Statler of the Portland, Oregon, Public Schools; Fred Tuttle of the National Aeronautics and Space Administration; Paul Westmeyer of Florida State University; and Donald Wood of the Educational Television Branch of the Hawaii Department of Education.

Part I--The Status of Television in Science Education

For this conference, questionnaires were sent to 116 educational television stations and two closed-circuit facilities. Information resulting from those questionnaires is the basis for this section of the report. This report does not consider materials developed or offered by commercial television stations. It is concerned with materials used only in classroom instruction.

Seventy-nine different telecourses were found in use at the elementary and secondary levels. One program was designed for use at the elementary grade level.

ELEMENTARY GRADE LEVEL

GRADE EMPHASIS The division according to grades revealed a heavy but anticipated emphasis on materials designed for elementary education. Eighty-two percent of the telecourses (66 courses) was designed for use at the elementary grade level.

Seventy-three percent (47 courses) was intended for the intermediate grades (grades four through six) while 27 percent (19 courses) was intended for the primary grades (K through three).

FREQUENCY OF TRANSMISSION Of the sixty-six elementary grade level telecourses, 73 percent was designed to be used throughout an entire academic year, and 27 percent was intended for use for a single semester.

Of the sixty-six telecourses, 40 had a transmission rate of one lesson each week, 22 telecourses had a rate of two lessons each week, and four telecourses had a rate of three lessons each week.

RECORDED OR UNRECORDED Almost 90 percent of the telecourses at the elementary grade level was recorded and available for later use.

USED BY OTHERS Less than one-third of the telecourses was used by stations other than the producing station.

SECONDARY GRADE LEVEL

GRADE EMPHASIS Thirteen telecourses were designed for the secondary grade level. This was 17 percent of the total number of telecourses.

FREQUENCY OF TRANSMISSION Of the 13 secondary grade level telecourses, nearly 77 percent was designed for use for a complete academic year, and 23 percent was designed for one semester.

Five of the 13 telecourses had a transmission rate of one lesson each week, three telecourses had a rate of two lessons each week, a single telecourse had the rate of three lessons each week, and four telecourses had a rate of four lessons each week.

RECORDED OR UNRECORDED Eleven telecourses were recorded and available for later use.

USED BY OTHERS Six of the telecourses were used by stations other than the producing station.

IN-SERVICE TEACHER EDUCATION

Only one 30-minute program was designed for teachers education.

Part II--An Overview

NCSCT is conducting additional meetings with science and television authorities as a result of its first assessment of television in science education. The science authorities, convinced of television's potential in science education, urged additional conferences to permit further analysis, the development of standards for television production, and the development of review and testing methods for materials based on those standards.

The 11 authorities explored the current status of televised science lessons for elementary and secondary schools. At the conference they viewed and discussed portions of 80 lessons, representing the output of most of the educational television stations in the country. They were able to review enough of each lesson to permit valid judgments.

Among the subjects considered were the quality of the television teaching, the science content of the lessons, the validity of television as an instructional medium in science education, the objectives of televised science lessons, and the usefulness of related materials such as teachers' guides. Comparisons were made between the functions of the television teacher and those of the classroom teacher.

While there was not complete agreement among the conferees on all points considered, several generalizations and questions concerning the overall use of television in science teaching was formulated. These are here reported.

There was agreement that improvements are needed in all phases of school television in science education.

Use of the Medium. Four major functions of televised science lessons were identified. Some telecourses apparently are intended as the sole instruction available. In a large number of instances televised lessons represent the major portion of the science program. These lessons are intended to receive support from a classroom teacher in the form of introductory lessons, summary lessons, drill, and testing. A third kind of situation involves the use of television as a minor contributor to the instructional program which, in turn, is accompanied by other instructional activities and media. Still a fourth use is the influence the television lesson's content and method has on the classroom teacher. In one instance the in-service education of the teacher was the explicit aim. In most other instances possibilities for the television lesson to effect the classroom teacher in terms of his subject matter competency, his attitudes toward science teaching, and his teaching techniques were obvious. These influences caused considerable speculation among the conference participants.

The effectiveness with which televised science lessons can serve these functions must be explored. In spite of the use of television for instructional purposes there still remains a great need for classroom teachers who are well prepared in terms of subject matter and teaching ability. On the other hand, the television teacher tends to assume a significant place in the science program and his influence cannot be ignored.

Quality of Television Teaching. The role and influence of the television teacher is not fully understood at present and should be the subject of further research. The conferees identified two attributes of a good television teacher:

. . .(1) He must have the ability to develop some form of rapport with his audience and to be skillful in communicating with his unseen pupils.

. . .(2) He must have an excellent understanding of his subject matter. These qualities, of course, are related.

It appears that the quality of the teaching in a majority of the television lessons is not superior to that in many classrooms. Very likely increased attention must be given to the selection and training of television teachers. Perhaps there is a need also for supervision of the television teacher in terms of the validity of the subject matter, the organization of the lesson, the use of scientific apparatus, and the use of appropriate teaching procedures.

Throughout the discussions at the conference it was difficult for the participants to separate in their thinking the performances of the television and classroom teachers. The following comment was typical. "Regardless of what we want television to contribute, the television teacher becomes a model for all other teachers; if he stresses verbal learning the classroom teacher will do likewise."

Few generalizations concerning classroom and television teachers were possible because of the great variation in the quality of teaching. Some television teachers are better than some classroom teachers and vice versa. Attempts to make this comparison are complicated by the fact that these two teachers are not always trying to do the same thing. The criteria for judging who is "better" are not clear at present. The fact that these comparisons were attempted probably illustrates the conferees' uncertainty concerning the roles of these two persons.

The prominence of the television teacher in the lessons was questioned by some who thought that perhaps the content should be more dominant than the teacher. On the other hand the personality of the television teacher may have an important influence on learning, a fact which is not fully understood or exploited at present. Since the televised science lesson is usually employed as part of a larger instructional program carried on within the school, the classroom teacher and the situation within which he operates should be the subject of research.

In the lessons that were viewed one or two attempts were made to involve the pupils as more than passive receptors of information. In one lesson the television teacher provided a three-minute break during which the pupils were to discuss the points made earlier. Other possibilities for stimulating pupil involvement emerged during the discussions. Among these was the suggestion that the television lesson be so structured that the classroom teacher could turn it off when the students had reached a desirable level of readiness for work on their own. It was also thought that the television teacher could suggest pupil activities to be performed in the classroom or at home.

Contents of the Lessons. In many lessons there were subject matter errors which could have been corrected had the lessons been viewed by subject matter specialists. Two types of errors occurred, both common to television and classroom instructor. Errors committed in televised lessons, however, are perhaps more serious because of the size of the viewing audience. One type of error occurs when the teacher is trying to simplify in order to adapt material to the level of pupil maturity. The problem of reducing the frequency of this type of error will be solved only after curriculum workers have a greater understanding of the ways in which children conceptualize natural phenomena. To what extent can an adult topic be simplified without destroying its validity at the pupils' level of understanding? The second type of error results simply from the teacher's misunderstanding of the subject. These errors can be reduced by improvements in the education and selection of teachers and the use of science curriculum consultants during the production of television lessons.

The appropriateness of much of the content for presentation by means of television can also be questioned. In many of the lessons the content was not selected on the basis of the unique qualities of the television medium. Much of what was viewed could just as well have been taught by classroom teachers. This leads to the question of exactly what the role or roles of school television should be.

Validity of Television as an Instructional Medium. The 80 television lessons left the participants in the conference with a strong impression that the role of school television in science education needs to be clarified. There is a need to define what aspects of the science program should be dealt with by means of television.

Who should determine the science curriculum for a particular class? Several participants expressed the point of view that the classroom teacher should be the one to select the specific content to be taught and the learning activities to be employed in the classroom and that telecasts should be employed along with other media.

"The content has to be supplied by some route and television can be one of these routes," said one conferee.

The effectiveness of a televised lesson depends not only on its subject matter but also on the ways in which the videotape is used in the classroom. To aid the teacher, guides are needed that show the relationship of the lesson to the total science unit and course. Guides should also contain suggestions for introductory and follow-up lessons. Many of the guides accompanying the sample lessons studied during the conference could have been improved.

One of the unique features of television is the rigid schedule of the broadcasts which requires that children in all participating schools view a given lesson at the same time. Some conferees regarded this as a "straight jacket" that inhibits the flexibility of the program in individual schools. Others defended it in terms of the stimulus it provides for all schools to keep from lagging in their treatment of the subject. To overcome this attribute of televised lessons that are broadcast some proposed that a "systems approach" be developed in which videotaped lessons or portions of lessons would be accessible to classroom teachers over closed-circuit systems at the push of a button.

Objectives of Television Instruction. Participants in the conference were encouraged to suggest and explore other innovations in the use of television in science education. At one point they were asked, "If we could remake science instruction, what role would you like to see television playing in the near future with the use of the present technology?" Among the response were the following:

. . .(1) Television should be used for the in-service education of teachers in terms of both subject matter and instructional methods. Lessons might be used to describe and to show ways of implementing the materials produced by recent science curriculum projects.

. . .(2) Emphasis should be placed on the use of television to aid the classroom teacher and not to replace him. Lessons should be designed to come at a variety of places in a science unit and to be more peripheral than central, so that the predetermined broadcast schedule would not set an unrealistic pace for many schools. Televised lessons that supplement the science unit by raising questions, showing applications of principles, and bringing in relevant current events are of the type that could serve this function.

. . .(3) Televised lessons should be subject to continual revision and innovation. The medium's flexibility should be exploited to keep the televised materials up to date, free from error, and as relevant to the courses of study as possible.

. . .(4) Television can serve a public relations function for the schools. Parents should be encouraged to view the broadcast and learn from them ways in which they can work with their children in science. Good public relations can also be achieved by means of telecasts describing the schools' science program and objectives.

Conclusions. The major accomplishments of the conference were the general exploration of the status of the art, the identification of problems, and the exploration of issues. "Need research" was a recurrent theme in the discussions. Television in education is apparently here to stay. At present it has many faults and unrecognized potential which need to be explored.

Teachers are using television and we have to find out how and why. Above all, the question of how television ought to be used remains unanswered. This exploratory conference is being followed by another NCSCT-sponsored conference in which school television in science education will be more thoroughly analyzed and standards for the development of televised lessons will be suggested.

Part III--Television in Science Education

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
PRIMARY COURSES						
ALIVE AND ABOUT	WEDH	Hartford, Conn.	K-3	26	20'	1/wk
ALL ABOUT YOU	WGBH	Boston, Mass.	1-2	11	15'	1/wk
FIRST LOOK AT SCIENCE	KCTS	Seattle, Wash.	1	33	15'	1/wk
DISCOVERING SCIENCE	KLRN	Austin, Tex.	3	29	20'	1/wk
ISN'T IT WONDERFUL	KDPS	Des Moines, Ia.	2	35	15'	3/wk
JUST WONDERING	KOAC/ KOAP	Eugene, Oreg.	1	31	15'	1/wk
LAND AND SEA	WGBH	Boston, Mass.	3	15	15'	1/wk
PRIMARY SCIENCE	WXXI	Rochester, N.Y.	K-3	32	15'	1/wk
PRIMARY SCIENCE	KCET	Los Angeles, Calif.	1-2	16	15'	2/wk
EXPLORING SCIENCE-2	KDPS	Des Moines, Ia.	2	35	15'	1/wk
SCIENCE-3	KTCA	Minneapolis, Minn.	3	35	15'	1/wk
SCIENCELAND	MPATI	Lafayette, Ind.	1-2	32	20'	1/wk
SCIENCE IS EVERYWHERE	WTVS	Detroit, Mich.	2	36	15'	1/wk
SCIENCE CORNER	MPATI	Lafayette, Ind.	3	128	20'	2/wk
SCIENCE IS DISCOVERY	WTVS	Detroit, Mich.	3	35	15'	1/wk
SCIENCE IS FUN	WTVS	Detroit, Mich.	1	35	15'	1/wk
SCIENCE WITH CHARLIE	ETV	St. Lawrence Valley, N.Y.	K	14	15'	1/wk
WONDERING WITH SCIENCE	WKNO	Memphis, Tenn.	3	56	20'	2/wk
NEIGHBORHOOD EXPLORERS	WGBH	Boston, Mass.	2	15	15'	1/wk
INTERMEDIATE COURSES						
A TIME TO DISCOVER	P.S.*	Santa Ana, Calif.	4	71	15'	2/wk
A TIME TO WONDER	P.S.	Santa Ana, Calif.	3	71	15'	2/wk

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*Public Schools

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
INTERMEDIATE COURSES (cont.)						
ADVENTURES IN SCIENCE	WHRO	Norfolk, Virginia	5	70	20'	2/wk
ADVENTURES IN SCIENCE	WDCN	Nashville, Tenn.	6	72	30'	2/wk
ALL ABOUT SCIENCE	WHRO	Norfolk, Virginia	4	34	20'	2/wk
ELEMENTARY SCIENCE-5	KNME	Albuquerque, N.M.	5	70	20'	2/wk
ELEMENTARY SCIENCE-6	KNME	Albuquerque, N.M.	6	70	20'	2/wk
EXPLORING WITH SCIENCE	MPATI	Lafayette, Ind.	5	64	20'	2/wk
EXPLORING NATURE	WGBH	Boston, Mass.	5-6	30	30'	1/wk
EXPLORING SCIENCE	WYNE	Brooklyn, N.Y.	5	30	20'	1/wk
FOCUS ON SCIENCE	WXXI	Rochester, N.Y.	5	30	30'	2/wk
INQUIRY INTO LIFE	WETA	Washington, D.C.	5-7	30	30'	1/wk
LET'S INVESTIGATE	WGBH	Boston, Mass.	4	15	15'	1/wk
LET'S EXPLORE SCIENCE	KOAP/ KOAC	Eugene, Ore.	4-6	14	15'	1/wk
NOW WHAT?	WQED	Pittsburgh, Pa.	4-6	10	20'	1/wk
PRIMARY CONCEPTS OF SCIENCE	D.P.I.**	Pennsylvania	3-4	15	15'	1/wk
PROBING SCIENCE	KYNE	Omaha, Nebr.	5	33	15'	1/wk
SCIENCE 4-5	WNED	Buffalo, N.Y.	4-5	15	20'	2/wk
SCIENCE-4	WQED	Pittsburgh, Pa.	4	61	20'	2/wk
SCIENCE-4	WHRO	Norfolk, Va.	4	34	20'	1/wk
SCIENCE-4	P.S.	Anaheim, Calif.	4	68	15'	2/wk
SCIENCE-5	WQED	Pittsburgh, Pa.	5	49	25'	2/wk
SCIENCE-5	P.S.	Anaheim, Calif.	5	6	20'	1/wk
SCIENCE-6	WQED	Pittsburgh, Pa.	6	49	25'	2/wk
SCIENCE-6	MPATI	Lafayette, Ind.	6	32	20'	1/wk

**Department of Public Instruction

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
INTERMEDIATE COURSES (cont.)						
SCIENCE ADVENTURES	KYNE	Omaha, Nebr.	4	32	15'	1/wk
SCIENCE IN INDUSTRY	WEDH	Hartford, Conn.	4-6	26	20'	1/wk
SCIENCE IS A WAY OF THINKING	KQED	San Francisco, Calif.	5	28	20'	1/wk
SCIENCE AND YOU	KDPS	Des Moines, Ia.	6	65	20'	3/wk
SCIENCE FOR YOU	P.S.	Los Angeles (City), Calif.	6	17	30'	1/wk
SCIENCE LAB II	KERA	Dallas, Tex.	4-6	33	15'	1/wk
SCIENCE ROOM	WVIZ	Cleveland, Ohio	5-6	32	20'	1/wk
SCIENCE SPOTLIGHT	WETA	Washington, D.C.	5-7	30	30'	1/wk
SCIENCE TODAY	KYNE	Omaha, Nebr.	6	31	15'	1/wk
SCIENCE QUEST	KLRN	Austin, Tex.	5	29	20'	1/wk
SEARCH FOR SCIENCE	WVIZ	Cleveland, Ohio	4	32	15'	1/wk
SEARCH LIGHT ON SCIENCE	KDPS	Des Moines, Ia.	5	55	20'	3/wk
UNDERSTANDING SCIENCE	WNYE	Brooklyn, N.Y.	4	30	20'	1/wk
WONDERING WITH SCIENCE	WKNO	Memphis, Tenn.	4	56	30'	2/wk
WONDERING WITH SCIENCE	WKNO	Memphis, Tenn.	5	60	20'	2/wk
WONDERING WITH SCIENCE	WKNO	Memphis, Tenn.	6	60	20'	2/wk
WONDERWORLD OF SCIENCE	WHRO	Norfolk, Va.	6	70	20'	2/wk
WORKING WITH SCIENCE	WNDT	New York, N.Y.	6	30	20'	1/wk
WORLD OF CHANGE	WGBH	Boston, Mass.	6	20	20'	1/wk
WORLD OF SCIENCE	WDCN	Nashville, Tenn.	4	72	30'	2/wk
WORLD OF SCIENCE	WEDU	Tampa, Fla.	6	35	25'	3/wk
WORLD OF SCIENCE	WCVE	Richmond, Va.	6	52	30'	1/wk

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
SECONDARY COURSES						
AIBS BIOLOGY	D.P.I.	Pennsylvania	10-12	20	30'	3/wk
ASTRONOMY	WILL	Carbondale, Ill.	10-12	13	30'	1/wk
EARTH AND SCIENCE	KTCA	Minneapolis, Minn.	7-9	48	20'	1/wk
FROM DARKNESS INTO LIGHT	D.P.I.	Pennsylvania	11-12	12	30'	1/wk
GENERAL SCIENCE-9	KNME	Albuquerque, N.M.	9	34	30'	1/wk
HORIZONS OF SCIENCE	WEDU	Tampa, Fla.	9	146	25'	4/wk
INVESTIGATING THE WORLD OF SCIENCE	MPATI	Lafayette, Ind.	7-10	64	30'	2/wk
NATURE OF MATTER	MPATI	Lafayette, Ind.	7-10	32	30'	1/wk
NEW DIMENSIONS IN SCIENCE	WHRO	Norfolk, Va.	7	26	30'	2/wk
OUR PHYSICAL WORLD	WHRO	Norfolk, Va.	9	136	25'	4/wk
SECONDARY SCIENCE	WEDU	Tampa, Fla.	8-10	146	25'	4/wk
SCIENTIFIC GEOGRAPHY	KOKH	Oklahoma City, Okla.	7	137	25'	4/wk
WONDERING WITH SCIENCE	WKNO	Memphis, Tenn.	8-9	56	20'	2/wk
IN-SERVICE TEACHER EDUCATION COURSES						
ELEMENTARY SCIENCE ORIENTATION	KNME	Albuquerque, N.M.	In-S	1	30'	

Part 7

TELEVISION IN SOCIAL STUDIES EDUCATION

This report concerns the National Center for School and College Television's conference on television in social studies education. The conference was conducted to assess television materials now being offered in social studies education in an effort to stimulate the development of increasingly effective television programing. This report is divided into three sections:

*Part I is a status report of social studies education telecourses being offered in the United States.

*Part II is an overview of the discussion among the social studies and television specialists who participated in the conference.

*Part III is a tabular breakdown of the information gathered. The materials listed in this section form the basis for Part I. Lessons from most of the telecourses listed here were viewed during the conference. The courses are categorized by the following division: social studies, history, geography and civics-economics-government.

The conference participants reviewed print materials (mainly "Teacher's Manuals" which accompany television materials), viewed sample lessons from the telecourses, and, during the final session, considered the state of television in social studies education.

The authorities who assessed the television materials are Robert Ackerman, University of Omaha; Ben Cox, University of Illinois; Stanley Dimond, University of Michigan; Richard Drake, Berea College; Maxine M. Dunfee, Indiana University; Lester Jipp, State Department of Public Instruction, Vermont; Theodore Kaltsounis, State University of New York; Carl Planinc, Southern Illinois University; Vincent Rogers, University of Minnesota; Malcolm Searle, National Council for the Social Studies; Frederick R. Smith, Indiana University; and Huber Walsh, University of Toledo.

Part I--The Status of Television in Social Studies Education

For this conference, NCSCT directed more than 125 questionnaires to ETV stations, closed-circuit television facilities, public school systems and state departments of education. The replies to those questionnaires form the quantitative basis of this report. No commercial materials are considered.

Ninety-nine telecourses were found in use in elementary, secondary and higher education.

ELEMENTARY GRADE LEVEL

GRADE EMPHASIS Fifty-five percent of all telecourses were designed for use at the elementary level, primarily in the intermediate grades (43 percent of all telecourses). Primary materials accounted for 13 percent of all offerings (23 percent of all elementary level telecourses).

Of the 55 elementary telecourses, 33 were in social studies, 11 in history, seven in geography and four in civics-economics-government.

FREQUENCY OF TRANSMISSION As can be seen from the chart below, the majority of elementary level telecourses (36) were transmitted at the rate of one lesson each week. The twice weekly rate was next in frequency (eight), followed by the three times weekly rate (five), four times weekly (four) and twice monthly (two).

RECORDED OR UNRECORDED Approximately 20 percent of the telecourses at the elementary level were not recorded. A few of these telecourses (and some on other levels were recorded, but within a day or two were erased, and thus were unavailable for later use or for replay.

SECONDARY GRADE LEVEL

GRADE EMPHASIS Forty-one percent of all the telecourses were designed for use at the secondary grade level. Ten of these were in the social studies area, 16 in history, four in geography and 11 in the civics-economics-government group.

FREQUENCY OF TRANSMISSION Fifteen of the 41 secondary level telecourses had a transmission rate of one lesson each week. Next most frequent rate was four times weekly (10), followed by three lessons weekly (7), twice weekly (6) and twice monthly (1). Only one telecourse was transmitted daily.

RECORDED OR UNRECORDED Fourteen of the 41 telecourses were not recorded for later use. Here again, some telecourse lessons were recorded but almost immediately erased, eliminating the possibility of repeated usage.

HIGHER EDUCATION

Only two series were designed for college level use and one for in-service teacher education. The in-service series was in geography, while the collegiate materials were in history and economics. All three telecourses were recorded for later use.

Transmission Rate	Elementary	Secondary	Collegiate and In-Service	Total
1/wk	36	15	1	52
2/wk	8	6	2	16
3/wk	5	7	0	12
4/wk	4	10	0	14
5/wk	0	1	0	1
2/mo	2	2	0	4
	55	41	3	99

Part II--An Overview

Under the auspices of the National Center for School and College Television, 12 specialists in social studies and school television, representing various colleges and universities as well as public schools and related professional groups, evaluated existing television materials, discussed the potential of television in social studies education and made suggestions for the development of more effective materials. Materials viewed were divided into four categories: social studies, history, geography and civics-economics-government.

METHOD OF VIEWING

Lessons were not viewed in their entirety. If after viewing the initial part of a lesson the group felt that it could make a valid judgment, it would ask that the film or video tape be stopped. Occasionally, one of the viewers would request to see the end of a particular lesson, but few lessons were viewed from beginning to end. The viewing established a general impression of television's adequacy in social studies rather than detailed criticism of particular lessons.

For each one of the lessons the specialists used an evaluation form for their impressions. The form indicated the overall objectives of the series each lesson represented and provided space for general evaluation of each lesson's content, overall effectiveness and the teaching techniques employed.

This overview summarizes the deliberations of the group by presenting (1) the identified weaknesses of the telecourses, (2) the strengths which characterized them and (3) some suggestions for future directions.

IDENTIFIED WEAKNESSES

The major weaknesses of the telecourses are related to lesson *content* and lesson *presentation*.

The content. Especially at the elementary level, content consists mostly of giving information or describing events, places and situations. School television is not using as well as it might the concept-oriented approach to teaching social studies. Whether a particular lesson concerns the local community or some far distant country, there is little effort to identify a limited number of "big ideas" and to allow these "ideas" to be the criteria for the selection of facts and other specifics to be taught.

In certain telecourses, an attempt is made to use the concept approach. Here, however, concepts overload the lessons. Children clearly cannot develop all the concepts presented. As a result, children do not use facts to understand better the concepts. What is necessary is a balance between fact and concept.

More often at the secondary than at the elementary level is content in many ways biased. The bias is obvious in lessons dealing with such topics as "Communism" and "The Depression." But even in lessons dealing with housing in this country biased content shows only beautiful suburban homes and overlooks urban housing and its problems.

Most lessons leave little room for children to deliberate. In most cases, television treats children as passive listeners and observers. Too often there are too many lessons in one course, thus forcing classes to spend all their social studies time with television.

The presentation. Because of poor introductions, students often have to wait too long to find out what the lesson concerns. A parallel weakness appears in the teacher's manuals which accompany the telecourses. The objectives listed in the manuals are too often teacher-oriented in terms of what he ought to do rather than student-oriented in terms of what the children should learn or develop.

An impressive number of activities and some effective audio-visual aids are in use at the elementary level. Activities, however, are usually presented for the sake of having activities, and not for the purpose of clarifying concepts. Many activities are too long. While some of the audio-visual aids are well-planned and effective, maps and globes, basic instruments in social studies instruction, can be more often used.

At the secondary level activities decreases and lecturing increases. Indeed, there is just too much lecturing. Most such lecture presentations could be accomplished without television. Generally speaking, the secondary teacher is less inventive in his presentation than his elementary school counterpart.

Several television teachers demonstrate unusual talent but there is a tendency among them to act rather than teach. In presenting current events, for instance, teachers often imitate news broadcasters rather than use techniques more appealing to children. In dealing with foreign countries, teachers often sound like tour guides.

IDENTIFIED STRONG POINTS

Some courses are polished productions. The better produced programs are at the secondary level.

Many of the teachers do demonstrate great potential, but need to become more familiar with television's strengths and weaknesses. Elementary teachers seem especially well acclimated to the medium.

At the secondary level the content is more substantial than at any other level.

SUGGESTIONS FOR FUTURE DIRECTION

Social studies instruction by television is not accomplishing what it ought. Generally speaking, the majority, if not all of the members of the assessment group, feel there is a need for someone to take the initiative to align school television with the new trends and ideas in social studies education.

It is clear that television should be used to assist the teacher and not to replace him. Consequently, one of television's main functions should be to bring to the classroom that which the teacher is unable to do. It is impossible, for example, for every class in the nation to visit the United Nations, but the United Nations can be brought to every class through television.

The specialists oppose long series of lessons providing complete and comprehensive coverage and favor a limited number of excellent depth studies designed to stimulate classroom analysis and deliberation.

In relation to the need for open-ended lessons, those involved in producing materials are urged to become familiar with the problem-solving approach. Social studies deals with human relationships. Television can present actual conflicts and issues and allow children to suggest possible solutions. For example, the U.S. war on poverty should be presented in terms of the conditions that create it rather than in terms of official statements on how to abolish it. When children become aware of the conditions of poverty they can suggest and discuss possible solutions and even evaluate the government's proposed solutions.

To eliminate the information giving, descriptive approach in teaching social studies, telecourses ought to be organized around basic concepts. Furthermore, skills, including map skills, should be taught in context.

There is a need for an expert producer-director who should be a member of a team consisting of teacher, subject matter specialist and possibly a psychologist.

Toward the end of the deliberations the question was raised as to the exact role of a national organization such as the National Center for School and College Television. Should it simply advise or should it produce programs for national distribution and consumption? Though these questions were not answered to everyone's complete satisfaction, a number of interesting thoughts were expressed. One member argued that national production might be impractical since many social studies concepts are based on regional and contemporary specifics. Another member argued that on sensitive topics, such as Communism, it is better to have expert productions for national use to avoid biases due to provincial pressures. A third specialist expressed the view that any national program agency would impose itself upon individual schools. However, others countered that schools at the local level are not obligated to use any programs.

Part III--Television in Social Studies Education

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
SOCIAL STUDIES						
PRIMARY LEVEL						
BAY AREA ADVENTURE	KQED	San Francisco, Calif.	3	28	20'	1/wk
COMMUNITY HELPERS	WNED	Buffalo, N.Y.	K-1	15	20'	1/wk
ELEMENTARY SOCIAL STUDIES	KCSD	Kansas City, Mo	3	6	15'	3/wk
GREATER OMAHA-- WINDOW TO THE WEST	KYNE	Omaha, Nebr.	3	18	15'	2/mo
IN AND OUT OF THE CITY	KCTS	Seattle, Wash.	2	18	15'	1/wk
LEARN WITH ME, I, II, III	WDCN	Nashville, Tenn.	1-3	105	15'	3/wk
LET'S TAKE A FIELD TRIP	KUSU	Logan, Utah	3	28	20'	1/wk
SOCIAL STUDIES	Valley Instr. TV Assoc.	Sacramento, Calif.	3	28	15'	1/wk
SOCIAL STUDIES--GRADE 2	KDPS	Des Moines, Iowa	2	30	15'	2/wk
YOUR COMMUNITY	MPATI	Lafayette, Ind.	3	16	20'	1/wk
YOUR WORLD	Ga. ETV Network	Atlanta, Ga.	1	66	15'	2/wk
INTERMEDIATE LEVEL						
AMERICANA	Santa Ana Unified & Jr. Col. Dist.	Santa Ana, Calif	5	104	20'	3/wk
CHILDREN OF OTHER LANDS	WNDT	New York, N.Y.	3-4	30	20'	1/wk
CHILDREN OF OTHER LANDS	WNDT	New York, N.Y.	4-6	30	20'	2/wk
COMMUNITY VOLUNTEERS	KTCA	St. Paul, Minn.	1-6	18	15'	1/wk
DISTANT NEIGHBORS	WEDU	Tampa, Fla.	6	35	25'	1/wk
DOWN MEXICO WAY	WDCN	Nashville, Tenn.	6	8	29'	1/wk
EXPLORATIONS WITH BUCKY BEAVER	KOAP	Portland, Ore.	4	10	20'	1/wk

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
INTERMEDIATE LEVEL (cont.)						
EXPLORING OUR WORLD	KDPS	Des Moines, Iowa	4	63	15'	3/wk
IT'S A WIDE WORLD	KTCA	St. Paul, Minn.	4	40	20'	2/wk
IT'S YOUR COMMUNITY	WVIZ	Cleveland, Ohio	3-4	32	15'	1/wk
OUR NATION'S CAPITOL	WDCN	Nashville, Tenn.	5	7	29'	1/wk
OUR WORLD WINDOWS	WHRO	Norfolk, Va.	6	34	20'	1/wk
OUT OF THE PAST	WDCN	Nashville, Tenn.	6	13	29'	1/wk
PATHWAYS TO PEOPLE	KQED	San Francisco, Calif.	4	28	20'	1/wk
ROADS TO DISCOVERY	KERA	Dallas, Texas	4-5	16	14'	1/wk
SOCIAL STUDIES 5	Anaheim Elem. Schls.	Anaheim, Calif.	5	92	18'	3/wk
TACOMA, WASHINGTON,USA	KTPS	Tacoma, Wash.	4	32	20'	1/wk
TENNESSEE'S CAPITOL CITY	WDCN	Nashville, Tenn.	4	6	29'	1/wk
THIS IS CONNECTICUT	WEDH	Hartford, Conn.	3-5	26	20'	1/wk
WHERE ON EARTH?	KQED	San Francisco, Calif.	6	27	20'	1/wk
WONDER WHY	WSIU	Carbondale, Ill.	4-6	64	20'	2/wk
YOUR MINNESOTA	KTCA	St. Paul, Minn.	4	12	15'	1/wk
SECONDARY LEVEL						
AMERICANS ALL	KRMA	P.S.* Denver, Colo.	5-8	31	20'	1/wk
BEYOND THE AMERICAS	WDCN	Nashville, Tenn.	7	67	29'	2/wk
CULTURES AND CONTINENTS	WCNY	Syracuse, N.Y.	10-12	13	30'	1/wk
FAR-AWAY PLACES	WDCN	Nashville, Tenn.	5-8	40	29'	1/wk
NEW HORIZONS	KERA	Dallas, Texas	6-7	16	14'	1/wk
OF THE PEOPLE	WNED	Buffalo, N.Y.	7	10	20'	1/wk
PEOPLE AND THEIR WORLD	WQED	Pittsburgh, Pa.	6-7	30	20'	1/wk

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*Public Schools

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
SECONDARY LEVEL (cont.)						
PLACES IN THE NEWS	WNYE	Brooklyn, N.Y.	7-9	36	20'	1/wk
VIRGINIA: CRADLE OF OUR NATION	WHRO	Norfolk, Va.	7	100	20'	3/wk
WORLD CULTURES	WHRO	Norfolk, Va.	9	130	25'	4/wk
HISTORY						
PRIMARY LEVEL						
ELEMENTARY SOCIAL STUDIES	P.S.	Baltimore, Md.	K-3	6	15'	1/wk
INTERMEDIATE LEVEL						
ALABAMA STORIES	ETV	Birmingham, Ala. Birmingham Area	4	31	15'	2/wk
AMERICAN HISTORIC SHRINES	WNYE & NYC	New York, N.Y. BD. of ED.	4-5	20	20'	1/wk
OUR NEBRASKA LAND	KYNE	Omaha, Nebr.	4	9	20'	1/wk
OUR NEW HAMPSHIRE	WENH	Durham, N.H.	4	22	15'	1/wk
RED RIVER BASIN	KFME	Fargo, No. Dak.	4-6	20	20'	2/wk
SEE FOR YOURSELF	WVIZ	Cleveland, Ohio	5-6	16	20'	2/mo
THE ARTS--OUR COUNTRY	Eugene Sch. Dist.	Salem, Oreg.	5	10	15'	1/wk
THE ARTS--PACIFIC NORTHWEST			4	10	15'	1/wk
THIS IS UTAH	UNIT& KUSU	Logan, Utah	4	32	20'	1/wk
UTAH GLIMPSES	KUSU					

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
SECONDARY LEVEL						
ALABAMA HISTORY	ETV Birmingham Area	Birmingham, Ala.	9	48	30'	3/wk
AMERICAN HISTORY	P.S.	Detroit, Mich.	7-8	73	25'	2/wk
AMERICAN HISTORY	WFPK	Louisville, Ky.	11	141	25'	4/wk
AMERICAN HISTORY	WHRO	Norfolk, Va.	8	130	23'	4/wk
ISSUES AND IDEAS	WCVE/ WCVW	Richmond, Va.	11	60	30'	2/wk
NEW ENGLAND FIELD TRIPS	WGBH	Boston, Mass.	5-8	10	30'	1/wk
OKLAHOMA HISTORY	KOKH/ KETA	Oklahoma City, Okla.	9	62	25'	4/wk
PROJECT: HISTORY	KLRN	Austin, Texas]	11	15	20'	2/mo
TENNESSEE HERITAGE	WDCN	Nashville, Tenn.	8	24	24'	3/wk
UNITED STATES HISTORY	KOKH/	Oklahoma City, Okla.	9	186	30'	4/wk
UNITED STATES HISTORY	KETA	Oklahoma City, Okla.	10	186	30'	4/wk
UNITED STATES HISTORY	WDCN	Nashville, Tenn.	11-12	66	24'	2/wk
U.S. HISTORY	WDCN	Nashville, Tenn.	9-12	72	29'	3/wk
U.S. HISTORY	WUNC	Chapel Hill, N.C.	11-12	170	30'	5/wk
UTAH IN PERSPECTIVE	KUSU	Logan, Utah	7	32	20'	1/wk
WORLD HISTORY	WDCN	Nashville, Tenn.	10	65	29'	2/wk
COLLEGIATE LEVEL						
THE AMERICAN HERITAGE	Brigham Young Univ.	Provo, Utah	Col.	36	45'	2/wk

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
GEOGRAPHY						
PRIMARY LEVEL						
LET'S TAKE A TRIP	WFPK	Louisville, Ky.	3	70	20'	4/wk
INTERMEDIATE LEVEL						
ADVENTURES IN GEOGRAPHY 5	WFPK	Louisville, Ky.	5	70	20'	4/wk
ADVENTURES IN GEOGRAPHY 6	WFPK	Louisville, Ky.	6	70	20'	4/wk
GEOGRAPHY--4th GRADE	KRMA	Denver, Colo.	4	34	20'	1/wk
UNITED STATES GEOGRAPHY--CITIES OF THE U.S.	P.S.	Detroit, Mich.	5	18	25'	1/wk
WHERE IN THE WORLD?	WFPK	Louisville, Ky.	4	70	20'	4/wk
WORLD GEOGRAPHY	ETV Birmingham Area	Birmingham, Ala.	4	34	15'	2/wk
SECONDARY LEVEL						
OTHER LANDS--OTHER WAYS	P.S.	Baltimore, Md.	6-7	5	15'	1/wk
SCIENTIFIC GEOGRAPHY	KOKH	Oklahoma City, Okla.	7	124	25'	4/wk
THE CHANGING EARTH	KLRN	Austin, Texas	7-9	29	20'	1/wk
WORLD GEOGRAPHY	KDPS	Des Moines, Iowa	7	100	20'	3/wk
IN-SERVICE						
TEACHING GLOBES AND MAPS	KPEC	Clover Park, Wash.	In-S	20	30'	2/wk

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
CIVICS-ECONOMICS-GOVERNMENT						
INTERMEDIATE LEVEL						
ECONOMICS EDUCATION	KTCA	St. Paul, Minn.	5-6	11	15'	1/wk
JAPAN: A WAY OF LIFE	KCET	Hollywood, Calif.	4	8	20'	1/wk
NEWS OF THE WEEK	San Diego	San Deigo, Calif. State College	4-7	**	15'	1/wk
SPOTLIGHT ON AFRICA	KCET	Hollywood, Calif.	4	7	20'	1/wk
SECONDARY LEVEL						
AMERICAN GOVERNMENT	KLRN	Austin, Texas	11	9	20'	2/mo
AMERICANISM VERSUS COMMUNISM	ETV Florida Comm.	Tallahassee, Fla.	9-12	30	30'	3/wk
CITIZENSHIP	ETV Birmingham Area	Birmingham, Ala.	9	48	30'	3/wk
COMMUNISM VERSUS DEMOCRACY	WTVI	Charlotte, N.C.	9-12*	32	60'	4/wk
GOVERNMENT	KOKH	Oklahoma City, Okla.	8	124	20'	4/wk
KNOW YOUR WORLD	KCET	Hollywood, Calif.	5-8	15	20'	1/wk
PERSONAL FINANCE	WHRO	Norfolk, Va.	9-12	60	20'	4/wk
PRACTICAL POLITICS	WGBH	Boston, Mass.	9-12	4	15'	1/wk
THE AMERICAN WAY	WDCN	Nashville, Tenn.	12	68	29'	2/wk
THE COMMUNISTS	KVIE	Sacramento, Calif.	9-12	7	20'	1/wk
THE RED MYTH	KQED	San Francisco, Calif.	12	13	30'	1/wk

*Also used as IN-SERVICE

**Varies from year to year

TELECOURSE TITLE	PROD.	PRODUCTION LOCATION	GRADE LEVEL	NO.OF LESSONS	LESSON LENGTH	FREQ.OF BRDCST.
COLLEGIATE LEVEL						
BASIC ECONOMICS	WCVE/ WCVW	Richmond, Va.	Col.	30	45'	1/wk

Appendix VII

PRELIMINARY CONCLUSIONS FROM A STUDY OF THE SIZE AND GROWTH OF THE SCHOOL TELEVISION AUDIENCE SERVED BY ETV STATIONS DURING THE PAST FIVE YEARS

At present there is considerable speculation about the significance and impact of instructional television. While research about television as a teaching instrument is plentiful, there is no reliable information about the size and growth of the school television audience. After more than a decade of availability, how many students actually use television in their classrooms? While this number clearly has increased over the years, has the increase been due solely to new transmission facilities and overall growth of the school population or does greater acceptance of television help account for the expanded audience?

To answer these questions, the National Center for School and College Television (NCSCT) is engaged in a special three-phase study. Part one seeks to establish the number of different students using classroom television. Part two deals with the growth pattern of television in education over the past five years. Part three attempts to identify and describe factors related to gains and losses in the school television audience. Preliminary conclusions based on the first two phases of this study are presented below.

SIZE OF THE SCHOOL TELEVISION AUDIENCE

In the United States, the traditional unit used to measure the size of the school television audience is "student enrollments." The term means the sum of "student exposures" to regularly televised instruction. Employing this approach, students who regularly view lessons from two instructional series are counted twice in total television enrollment figures. Thus, previous reports of total enrollments have necessarily overstated the actual number of individual students using television.

Based on its study of enrollment data, NCSCT has determined that the number of different elementary and secondary school students using broadcasts provided by ETV stations was as follows:

1961-62 school year..............2,250,000
1965-66 school year..............6,550,000

It should be emphasized that while these figures account for most of the school students receiving televised instruction, they are incomplete. The figures refer only to students in schools officially participating in the instructional service of ETV stations. Undoubtedly, many additional students use the service even though their schools are not formally affiliated with it. More importantly, the figures do not include the school audience of MPATI (about 585,000 for the 1965-66 period) nor the currently unknown number of students reached by closed-circuit, ITFS and commercial television transmissions. Reliable figures for the closed-circuit and ITFS audiences are now being compiled by the National Education Association.

Using the NCSCT figures only, and in relation to the total kindergarten through grade twelve public school enrollment for the two periods, ETV stations served about 6% of this enrollment in 1961-62 and nearly 16% in 1965-66.

GROWTH OF THE SCHOOL TELEVISION AUDIENCE

The absolute size of the school television audience does not fully describe the growth of school television over the past five years. When increases in the total school population were taken into account, the NCSCT study revealed that for 43% of ETV stations the school audience decreased moderately during this period. The study noted modest increases for 26% of ETV stations broadcasting in the years 1961-1966, marked audience increases for 27%, and no change for 4%.

Five-year changes in audience size were analyzed further by comparing the total school population within the reliable coverage area of ETV stations with the actual number of students served by television. On this "penetration" basis, the average ETV station served almost 11% of the reachable school audience in 1961. By 1966 the corresponding figure for the same stations was about 19%.

Since the penetration calculation is based on the use of television in both elementary and secondary grades, and since television is used predominantly in elementary education, television was actually used far more in elementary and far less in secondary education than the percentages indicated.

Although analysis of the factors influencing the size of the school television audience is still in progress, certain generalizations have emerged. First, the total audience for school television is growing rapidly. Second, where it is available television is reaching substantial numbers of students, especially at the elementary level.

Appendix VIII

TABLES

List of Tables

1. Grade Emphasis of Courses 181
2. Courses Submitted for NCSCT Assessments 182
3. Length of Lessons 183
4. Number of Lessons 184
5. Weekly Lesson Frequency 185
6. Programing Transmitted by Stations. 186
7. Suitability of Existing Elementary Courses. . . 187
8. Reuse Patterns of NCSCT Materials 188

Table 1

Grade Emphasis of Courses
Submitted for NCSCT
Assessment Conferences

Grade Level	Number of Courses	Percent of Total
K-3	168	31.5
4-6	273	51.0
7-9	59	11.0
10-12	34	6.5
Totals	534	100.0

Table 2

Courses Submitted for NCSCT Assessment Conferences (1965-1967)

Subject	No. of Courses	Percent of Total	No. of Elementary Courses	Percent of Elementary Courses	No. of Secondary Courses	Percent of Secondary Courses
Art	88	16.5	82	18.6	6	6.5
For. Lang.	86	16.1	73	16.5	13	14.0
Soc. Stud.	96	18.0	55	12.5	41	44.1
Math.	45	8.4	34	7.7	11	11.8
Music	100	18.7	98	22.2	2	2.1
Phys. Ed.	40	7.5	33	7.5	7	7.5
Science	79	14.8	66	15.0	13	14.0
Totals	534	100.0	441	100.0	93	100.0

Table 3

Length of Lessons Submitted for Assessment Conferences (1965-1967)

Minutes	No. of Courses	Percent of Total	No. of Elementary Courses	Percent of Elementary Courses	No. Secondary Courses	Percent of Secondary Courses
15	245	47.4	233	51.0	12	20.0
20	167	32.3	146	31.9	21	35.0
25	31	6.0	21	4.6	10	16.7
30	72	13.9	57	12.5	15	25.0
Over 30	2	0.4	0	0.0	2	3.3
Totals	517*	100.0	457	100.0	60	100.0

*Lesson length varied for several courses.

Table 4

Number of Lessons in Courses Submitted for Assessment Conferences (1965-1967)

No. of Lessons	No. of Courses	Percent of Total	No. of Elementary Courses	Percent of Elementary Courses	No. of Secondary Courses	Percent of Secondary Courses
2-9	29	5.5	18	4.1	11	12.5
10-19	90	17.0	77	17.5	13	14.9
20-29	44	8.3	41	9.2	3	3.4
30-39	176	33.3	162	36.8	14	15.9
40-59	21	4.0	14	3.2	7	7.9
60-69	59	11.2	50	11.4	9	10.2
70-79	38	7.2	32	7.3	6	6.8
80-99	20	3.8	19	4.3	1	1.1
100-119	20	3.8	17	3.9	3	3.4
Over 120	31	5.9	10	2.3	21	23.9
Totals	528*	100.0	440	100.0	88	100.0

*Several courses varied in number of lessons transmitted each year.

Table 5

Weekly Lesson Frequency of Courses Submitted for Assessment Conferences (1965-1967)

Frequency	K-6	Percentage (k-6)	7-12	Percentage (7-12)
1 per week	292	66.2	40	43.0
2 or more per week	149	33.8	53	57.0
Totals	441	100.0	93	100.0

Table 6

Total Hours of Instructional Television Programing Broadcast by Educational Television Stations (1961-1967)

	1961	1962	1963-64	1965-66	1966-67
Total Number of Hours per Week: In-School Broadcast	754:12	839:55	1451:15	1906:00	2579:10
Average Number of Hours per Week: In-School Broadcast	14:00	14:00	17:55	18:12	22:10
Total Number of Hours Broadcast All ETV Programing	2114:20	2502:50	3676:35	5620:00	Not Available
Percentage of Total Broadcasts for In-School Broadcasts	35.67	33.56	39.47	33.92	Not Available

Table 7

Suitability of Elementary Courses for General Use by Year of Production

Year of Production	Suitable	Percentage per Year	Tentatively Suitable	Percentage per Year	Unsuit.	Percentage per Year
1959-60	1	5.8	2	11.8	14	82.4
1960-61	2	9.5	3	14.3	16	76.2
1961-62	1	2.9	12	34.3	22	62.8
1962-63	1	3.6	5	17.8	22	82.2
1963-64	6	28.6	3	14.3	12	57.1
1964-65	3	17.6	8	47.1	6	35.3
1965-66	0	0.0	6	18.2	27	81.8
Totals	14	8.1	39	22.7	119	69.2

Table 8

Reuse Patterns of NCSCT Elementary Courses (1967)

Course	No. of Two Time Users	No. of Possible Two Time Users	Percen.
All About You	23	34	67.7
Sing, Children, Sing	12	15	80.0
WordSmith	13	18	72.2
World of Change	1	3	33.0
Totals	49	70	70.0

Appendix IX

MATERIALS AVAILABLE FROM NCSCT--SEPTEMBER 1, 1967

EARLY CHILDHOOD EDUCATION

1. *Roundabout:* Fifty-two 15-minute lessons to enhance the educational experience of disadvantaged preschool children. The course, an *acquisition,* is the result of a U.S. Office of Education-sponsored project.

ELEMENTARY EDUCATION

1. *All About You:* Eleven 15-minute lessons in science and health for the primary grades. *An acquisition.*

2. *Let's Investigate:* Fifteen 15-minute lessons in science for the intermediate grades. *A revision.*

3. *Meet the Arts:* Seven 30-minute lessons in the humanities for the intermediate grades. *An acquisition.*

4. *Sing, Children, Sing:* Fifteen 15-minute lessons in music for the primary grades. *A revision.*

5. *Stepping Into Rhythm:* Thirty 15-minute lessons in music for kindergarten and the primary grades. *A revision.*

6. *Tell Me A Story:* Thirty 15-minute lessons in language arts for kindergarten and primary grades. *A revision.*

7. *The WordSmith:* Twenty-eight 20-minute lessons in language arts for the intermediate grades. *An acquisition.*

8. *The World of Change:* Twenty 20-minute lessons in science for the intermediate grades. *An acquisition.*

9. *You and Eye:* Thirty 20-minute lessons in art for intermediate grades. *An acquisition.*

SECONDARY EDUCATION

1. *Accent on Music:* Eight 30-minute lessons of concerts and commentary for grades 7 through 10. *An acquisition.*

2. *The Communists:* Eight 20-minute lessons for the senior high school. *A revision.*

3. *Project: History:* Ten 20-minute lessons in U.S. history for the senior high school. *A revision.*

IN-SERVICE EDUCATION

1. *English--Fact and Fancy:* Fifteen 30-minute programs designed to improve English instruction. *An acquisition.*

2. *Pathways to Discovering Music:* Four 30-minute programs for elementary teachers. *A revision.*

3. *Sets and Systems:* Fifteen 30-minute programs for elementary teachers. *An acquisition.*

Appendix X

THE EVALUATION OF INSTRUCTIONAL TELEVISION

L. P. Greenhill, Director
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The evaluation of an instructional television lesson or course is, it seems to me, a difficult and complex task. It might be considered in three main phases

1. technical quality

2. content accuracy and adequacy

3. instructional effectiveness

A lesson or course might, therefore, be evaluated under each of the above headings and in that order. If the tapes are inadequate technically, they can be rejected at once. If passed and they then meet the criteria relating to content accuracy and adequacy, they should be evaluated in terms of their instructional effectiveness, i.e., how well they will stimulate learning. If they are technically acceptable but are unacceptable in terms of content, they should be rejected.

Assuming now that we have a lesson or course that is acceptable in terms of technical quality and content, how can we perform the third phase of evaluation, that is, assess its instructional effectiveness?

I would like to consider briefly five possible approaches, the first two of which are objective and the last three subjective.

Learning to a Criterion

The first method could be termed learning to a criterion. This method has been proposed a number of times in the past, but only recently, with the development of refined principles or programed learning, has it found actual application.

This method involves first the definition of lesson and course objectives in terms of *detailed* behavioral outcomes (terminal behavior of learners) desired as a result of exposure to the lesson. Second, it involves the construction of an adequate criterion measure for each lesson; and third, it requires the establishment of a passing performance on the part of an appropriate group of learners for which the course is designed.

With these three parameters established, one can select content, build a presentation, and then pre-test the prototype lesson with an appropriate group of learners. If they reach the established level of performance on the criterion test, the lesson is accepted; otherwise, it is rejected or is reworked and tested again.

The United States Air Force is attempting to apply this method to the development of a basic electronics course for television presentation. Detailed objectives for terminal behavior are developed, an acceptable criterion test is built, and a passing standard of 90/80 has been agreed upon (90 percent of the students should score 80 percent or more on the test).

While this method is strongly recommended for the development of new courses and represents a great step forward in instructional development, it is time-consuming and expensive. It is probably impractical for the evaluation of a large volume of existing recorded courses, except in instances where good tests exist and perforamnce data are available.

Comparative Effectiveness Method

The second objective method is one widely used in film and television research. It involves the production of several different versions of a lesson (differing in some systematic way), the construction of an adequate criterion test, and the assessment of the relative effects on learning of the several versions. A variation on this method is to produce Version A, have it evaluated by pretesting or one of the subjective techniques to be discussed below, then produce a modified Version B, and compare its effectiveness with A, and so forth.

Again this method is time-consuming and relatively expensive. It is perhaps most appropriate for the production of a new series or the remaking of an existing series, rather than for the assessment of the bulk of extant materials.

The next three methods are subjective and represent more economical approaches to the predictions of learner performance.

The Audience Analysis Method

A third method involves the use of rating scales and, possibly, audience response equipment. A sample of the intended audience rates the lesson on such criteria as:

I am learning - - - I am not learning

I I understand the lesson - - - I do not understand it

I like it - - - I do not like it

This technique is used by the people who produce and evaluate commercials for television. The problems are those of obtaining representatives of the target audience, the use of a limited number of rating scales, the reliability of the judgments, etc.

Panel Evaluation

A fourth method of assessing the instructional effectiveness of a television lesson (or film) is through the use of a rating form containing a number of criteria by a trained panel of raters. The criteria are drawn from instructional film research studies and deal with variables which have been shown to relate to the instructional effectiveness of a communication.

We have had some experience in applying this method with groups of naval training officers in the evaluation of naval training films and with the National Council of Churches in evaluating films for religious instruction or attitude change.

In general, the ratings have been used as a basis for evaluating a script or a film in rough-cut form with the object of improving its final form. The method has been applied, however, to the evaluation of completed films with a view to their acceptance or rejections for a specified use.

It has been found that a critical element in this procedure is the training of the panel of individuals who are to make the evaluations. The procedure adopted has been to have the panel view a series of several lessons which are known or estimated to vary somewhat in their instructional effectiveness. This is done to see whether the panel can select the most effective version and also to correlate its ratings with similar ratings by learners.

After viewing the lesson the panelists each independently rate the lesson on the criteria relating to instructional effectiveness. The ratings are then tabulated in frequencies on a chalk board. Where the ratings on a particular criterion cluster together closely, it is assumed that the panel is in agreement. Where the ratings are spread across the scale or are bunched in two clusters at each end of the scale, the raters then discuss the reason for their ratings. It usually turns out that there is some misunderstanding of the meaning of a particular criterion or how to apply it. After several such exercises, a surprisingly high degree of agreement is achieved among the raters, who become quite sophisticated in their evaluations of the instructional effectiveness of lessons. It might be claimed that the criteria have a reasonable degree of face validity, and if you can obtain a reasonable degree of agreement among judges, you have a fairly reliable measure.

Generally, experienced instructors or those with some interest and background in learning make the best raters for such a panel.

There is of course the problem of how to interpret and use the ratings. Where a panel gives a low rating on a specific criterion, an effort would be made to improve the lesson on film in this respect, if this is possible. Where this is not possible, then a judgment will have to be made whether low ratings on certain criteria warrant nonacceptance of the lesson.

Local Acceptance Method

The final method which I would like to mention is one which is likely to be used and is commonly used for accepting or rejecting text books. A local committee of curriculum experts views the lesson and decides whether or not it is acceptable to meet local needs.

While this method will undoubtedly be used in the final analysis, it is recommended that the panel evaluation procedure is a satisfactory one for eliminating much of the inadequate material that now exists but which would not be given wide circulation.

Appendix XI

FIELD VISIT REPORT

FIELD VISIT REPORT by: Date:

Institution Visited:

I. PHYSICAL INFORMATION

1. Type of Transmission Installation

a. Open-Circuit:

b. Closed-Circuit:

2500 mc:

c. Expansion Plans:

d. Type of Playback Machine or Plans:

II. PEOPLE VISITED - Names: Titles:

III. PREVIEW AND SELECTION PRACTICES

1. Will the institution preview recorded television materials produced in other places?

2. What kinds of materials are of interest?

3. Name and addressof person(s) to receive course information.

4. Name and address of person arranging previews.

5. Time of year when previewing is generally done.

6. Desired schedule for previewing:

7. Final date for determination of program schedule.

8. What NCSCT courses have been previewed?

9. Reaction to NCSCT courses previewed.

IV. COURSE POSSIBILITIES FOR ACQUISITION

1. Provide a select list of recorded and retained courses most likely to have value for other television facilities.

2. Evaluation of production capabilities.

V. EXISTING PROGRAM SCHEDULE

1. What NCSCT courses are they now using?

2. Reaction to NCSCT courses now being used.

3. What other leased courses are they now using?

4. Reaction to other courses not being used.

5. Percentages and amounts of air-time devoted to leased materials and other materials.

VI. ADDITIONAL COMMENTS

Appendix XII

EDUCATION'S DESIGN FOR SATELLITE COMMUNICATIONS

A summary report of NCSCT'S satellite conferences

The Ford Foundation's proposal for a non-commercial satellite system with channels reserved for instruction--first introduced in August, 1966, and since refined--received an unusually enthusiastic response from the educational community. The Foundation's foresight not only caused education to take stock immediately of its interest but to quicken its planning for the wise and effecient use of any such satellite system.

Aware that the educational community needed a basis from which to begin its assessment of satellite technology and mindful of the Ford proposal's urgency, the National Center for School and College Television, acting as a catalyst, designed several conferences as a forum for education. Invited were executive secretaries of the nation's professional organizations--representatives of broad academic interests, special content interests, preschool education, higher education and adult education. At the conferences educational leaders were briefed on the nature of possible satellite communications and their aid was enlisted in determining educational interest and in planning subsequent steps. To permit as many viewpoints as possible, the conferences were unstructured.

Each participant was asked to prepare a paper outlining what his group expected to be doing in 1977. These papers were summarized and served as the starting point for a discussion of how satellite communications might hasten the achievement of 1977's goals. The vigorous and positive action at NCSCT's conferences caused Professor W. C. Meierhenry of the University of Nebraska to comment in his paper, "It is hoped that these current activities represent a turning point in concern for new developments related to the transmission of all kinds of messages."

Participants in the conferences quickly asserted education's deep interest in the potential of satellite communications. Not only did they argue that satellites will have an important role in tomorrow's educational system but that they will need multiple channels to insure a wide offering and to fulfill the new resource's potential. They urged that researchers, while evaluating proposals for satellite communications in this country, consider the role of a satellite system within a broad multi-media approach to instruction. They also emphasized that American education, if it is to meet fully its commitment both to the United States and developing nations, must have access to international satellite channels.

In stressing the importance of a demonstration of a satellite system's potential, participating educators urged that there be demonstrated at least such a system's capacity as an information transfer device, as a structured learning resource and as a means for the immediate transmission of significant events. They also emphasized that such a demonstration should present a satellite's capacity to bring visual and/or audio material into the classroom. Materials chosen for a demonstration should be appropriate to a satellite system, should reflect a genuine educational need and should contain promise of exceptional utilization.

From the outset, consensus was that satellite communications must become an integral part of this nation's educational pattern. Thus, what appeared might become the conferences' most perplexing problem--education's interest in and need for satellite channels--was not considered. Rather, conference participants sought to define the most pressing specific problems connected with any satellite system and to refine possible solutions. Questions related to control, administration and management were prevalent:

. . . Who will supply adequate fiscal support?
. . . Who will control the system?
. . . Who will devise the content of the programing?
. . . Who will organize adequate quality control?
. . . Who will determine scheduling?

Suggestions as to the control of any satellite system for education included the establishment of a governing board similar to a State Board of Education, a policy group similar to the one governing the instructional activities of the British Broadcasting Corporation, or regional consortia of cultural and educational representatives. While these were only suggestions relating to a satellite system's control, the conferees stressed that content committees with broad representation should be created to insure widely-acceptable programing. They also emphasized that a policy board would have to determine needs to be filled by a satellite system, the producers of programing, time to be allocated to each subject area and other similar questions.

The Joint Council on Educational Telecommunications was selected as a secretariat to coordinate and disseminate information, to poll professional education when necessary and to be available to raise one voice in support of plans when appropriate. As well, JCET was charged with the design of a theoretical model for a national group concerned with satellites in education.

Conference participants urged every sector of education to submit its thoughts on a satellite system to the FCC. They asked for a continual dialog between commercial and non-commercial groups concerned with satellites, and for a study of the relative merits of a satellite system with channels allocated for instruction as opposed to an independent satellite system for education's use.

From NCSCT's conferences, therefore, it can be concluded that

. . . education has a deep and abiding interest in a satellite system and wants continual involvement in its planning and demonstration;

. . . educators perceive such a system's role in their work as much more than one of providing "immediacy"; and

. . . education feels that crucial problems related to the use of a satellite system can be solved.

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IDENTIFIERS

National Instructional Television Library

ABSTRACT

This report summarizes the successful establishment of a permanent national resource for instructional television programing. Because the use of television in education will expand, there is an increasing need for effective instructional television programing. NCSCT was established in 1965 to provide for the development of television materials of the highest quality in content, design and technique. Education has become deeply engaged in NCSCT's activities and is committing considerable resources toward making television a more integral and meaningful educational medium. Together with its educational advisors NCSCT has evaluated the status of existing television materials, with emphasis on elementary education, and has started examinations of television in early childhood, secondary and higher education. As a result, NCSCT is distributing the best of existing materials to achieve the potential education feels television possesses. Through activities like these evaluations NCSCT is involving its advisors and its staff in new materials development. Through existing communications channels, NCSCT is stimulating wise use of current materials and is establishing the rationale for materials now being developed.

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